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SCHOOL AND SOCIETY

EDITED BY J. MCKEEN CATTELL

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VOLUME XXX NUMBER 3

Teachers College
RECORD

December, 1928

THE MOST OUTSTANDING NEXT STEPS FOR CURRICULUM MAKERS IN THE UNITED STATES

By BOYD H. BODE

Professor of Education, Ohio State University

THE Conference on the Curriculum, one of the Group Conferences held during the National Conference on Education which met at Teachers College, April 10 and 11, 1928, was devoted to a consideration of the topic, "Outstanding Next Steps for Curriculum Makers in the United States." Dean John W. Withers of the School of Education, New York University, presided at this meeting. Professor Boyd H. Bode gave the principal address, which was discussed by Professors Harold Rugg, Frederick G. Bonser, and David Snedden, of Teachers College, and by Professor Ernest Horn of the University of Iowa. The papers by Professors Rugg, Bonser, and Snedden are printed in this issue of THE RECORD.—EDITOR.

WE have witnessed during recent years a phenomenal activity in the field of curriculum making. This activity has varied all the way from modest revisions and additions, dictated by the exigencies of the moment, to ambitious programs, conceived in a revolutionary spirit and backed by a conviction that the road to the promised land has finally been discovered. By this time, however, so much dust has been kicked up that no road is clearly discernible. Hence our problem: What are the most outstanding next steps for curriculum makers in the United States? Or, more briefly, Where do we go from here?

The briefer form of statement has the merit of directing attention to the fact that the problem involves both a "where" and a "here."

This fact is important because our program for curriculum making is bound to be determined by our diagnosis or interpretation of the present situation. It is chiefly because of our shortcomings at this point, I suspect, that our efforts at curriculum making have resulted in so much uncertainty and confusion. We have been too much disposed to take the present for granted. Consequently I crave permission to make, as a preface to a constructive suggestion, a brief survey of the present state of affairs, even though this survey may include many things that are familiar.

First of all, it is obvious, even to a casual observer, that something of tremendous importance has happened to education in this country. I do not refer now to the impressive growth in the extent or amount of education, although this growth is one of the wonders of the times. Education has been made over with respect to its quality or content. It is only a few decades ago that the A.B. degree, for example, stood for a fixed content. College graduates, the world over, were persons who had studied substantially the same things; they were citizens of the same spiritual universe, heirs of a common spiritual culture. All this has passed away. The A.B. degree to-day guarantees no identity of content on the college level, except the required courses in English.

To describe the suffering of the professors who were compelled to acquiesce in this change would require a more skillful pen than mine. Through long years they fought valiantly but fruitlessly against the introduction of courses in home economics, courses in advertising, and courses in how to raise pigs. The pigs won out in the end, and they won because the stars in their courses were fighting on their side. What the professors failed to realize adequately was that social changes were taking place which made inevitable the reinterpretation of our educational ideals and the reconstruction of our curricula.

It is a commonplace that every age is an age of transition. The transition acquires special significance, however, in so far as it can be linked up with the operation of new agencies or causes. With respect to our own age, we find a new influence or factor of this sort in the development of science, which is, in very truth, making over our whole civilization. The changes wrought by science are threefold. They relate to the material conditions of living, to social institutions and practices, and to what we sometimes call outlook on life or attitude toward the world.

With regard to the changes in material conditions, some of them are so patent that he who runs may read. Transportation and communication have been revolutionized in the course of the past hundred years. We have a new industrial order. It has been stated that twenty-five per cent of the workers of this country are engaged in occupations that were wholly unknown, say, thirty years ago. The average person, including the very young person, has achieved a degree of economic independence such as the world has never seen before. Our population has a mobility that is reminiscent of the old pioneer days, but the range of travel has been enormously increased and the old isolation has all but disappeared. The traveler does not vanish into a trackless wilderness, but finds himself everywhere in a civilization that is all center, without margin or circumference. If the President in the White House has an attack of indigestion at noon or if a pitcher in a major baseball league pitches a no-hit game in the afternoon, every patriotic heart in the country thrills to the news over the evening newspaper. The radio and movie have also done their share to make distances shrink to the vanishing point. We need but glance at these conditions to realize that the education of yesterday is no longer suited to the youth of to-day.

With respect to institutions and practices, the changes that have taken place in the external conditions of life are modifying the social structure in all sorts of ways. There is considerable evidence that the atmosphere of home life is becoming something different from what it used to be. Father is no longer an unquestioned fount of wisdom and authority, as of old. He can learn much from his children, and he must constantly watch his step if he is to maintain his prestige. Parents are expected to be courteous and pleasant at home if they wish their children to stay with them. We have it explained to us that matrimony need not mean the abandonment of an independent career for women, and off on the horizon we hear sinister rumblings of companionate marriages. Labor is taking lessons from capitalism in the arts of organization and business management. Both theology and politics are showing signs of wear and tear. The old shibboleths and slogans are losing their potency. Only yesterday the distinction between a Presbyterian and a Methodist, or between a Republican and a Democrat seemed a thing of vital significance; now it takes a set of blueprints to tell the difference.

As compared with the change that is taking place in outlook or attitude, the changes just mentioned are more or less on the surface. But the change in outlook is no less real, and certainly no less significant, although it is less tangible and less spectacular. The lack of science in former times meant lack of control over the material environment, and this lack of control dictated a specific attitude toward life. The material environment was too stubborn and unyielding to offer much promise of supplying the things that men set their hearts upon. For the most part the struggle with the environment was just a struggle for the necessities of existence. Man's longings for the true, the good, and the beautiful must either remain unsatisfied or must be satisfied elsewhere. It was no accident, therefore, that a sharp dualism was developed. On the one hand was the life of everyday affairs, on the other was the life of man's higher aspirations. For the satisfaction of these higher aspirations man turned either to the life beyond the grave or to a purely ideal world of his own creation—a world of art and literature and philosophy, which we call the classical tradition.

This dualism had momentous consequences. Its tendency throughout was to maintain the established order. It stratified the social classes and provided divine sanctions for social usages and customs. The things that had been found useful or desirable in practical life were hallowed and fenced in by an external authority. Political power was made to rest on divine right, matrimony became a sacrament, slavery and the institution of private property were regarded as ordained by Providence, and unquestioning obedience in political and ecclesiastical matters was inculcated as a supreme virtue. All the influences of tradition and all of man's natural loyalties were thus organized to give human institutions the authority of revelation and to ward off progress and reform.

This scheme of things is rapidly being undermined at the present time. The farmer of to-day is an excellent illustration of what is going on. Only a few decades ago he led a lonely existence, filled mainly with arduous, routine work. For the boy with a taste for intellectual things all roads led away from the farm. Now, however, farm life is becoming a fairly adequate medium for the expression of a wide variety of interests and capacities. The automobile, the telephone, the radio, and the daily newspaper bring the outside

world to every door, and labor-saving devices provide a margin of energy and leisure. The farmer is beginning to give up his traditional individualism and to engage in various coöperative enterprises. Up-to-date agriculture requires an extensive background of science, combined with skill in the handling of fairly complicated machinery. Rural homes are becoming more convenient and more attractive. In brief, all sorts of intellectual, social, and esthetic opportunities are now becoming available, which is to say that the farmer's aspirations for the true, the good, and the beautiful now permit of extensive translation into terms of his everyday activities.

Perhaps the farmer presents an exceptionally favorable illustration. The factory worker is no doubt less fortunately situated. Modern industry in some of its aspects tends to take the joy out of life. Nevertheless, present-day civilization, in spite of its defects, is undeniably making everyday life more and more absorbing and less dependent on the consolations of classical culture and traditional religion. The old dualism is in process of being eliminated. The world beyond is growing more and more shadowy. Complaint is being made that the present generation is lacking in the spirit of reverence. The reason is that the internal verities are fading out, like the old mythologies. Reverence is impossible without a realizing sense of the "realness" of the objects to be reverenced, and this realizing sense is vanishing, along with the need for these objects. Swearing, consequently, is ceasing to be profanity and is becoming simply a form of vulgarity. It has long been supposed that women are naturally more religious than men, but the difference may be simply the expression of a difference in circumstances. Woman's life was more circumscribed and so the need of an escape was greater. It remains to be seen whether equalization of status will not bring with it equalization in kind or degree of religious reaction.

There seems to be no doubt that the old sense of a supersensible reality, which constitutes a sort of fourth dimension and which is the traditional basis for moral and religious authority, is passing away. The consequence is that men are learning to judge of good and bad, of right and wrong, in terms of consequences rather than in terms of a set formula. We see this attitude of mind expressing itself in connection with all sorts of questions which formerly were settled by appeal to authority, as, for example, such questions as observance

of the Sabbath, enfranchisement of women, property rights, prohibition, and the like. It is interesting to notice that the great bulk of comment on Judge Lindsey's scheme for companionate marriages, while overwhelmingly unfavorable, seemed to be based altogether on the results which might be apprehended to follow from the innovation and not on any alleged violation of divine regulation or the eternal fitness of things. In addition to all the other changes, science is bringing about a secularization of attitude which is of profound significance for the future of the race.

Let us linger for a moment on the meaning of this latter change. It makes all the difference in the world whether we hold that the basic principles of civilization are laid down in advance, either by divine ordinance or by immutable cosmic law, or whether we assume that man creates the rules of the game, in the form of new ideals and new aspirations, as he goes along. In the latter case man's advent on this planet takes on the quality of a great experiment, which has no assignable limit and which gives no assurance that anything which we now hold sacred and essential will be permanently so. From this standpoint all our institutions and customs are just instruments for the realization of mundane ends. There is only one thing that counts and that is the continued, progressive liberation of intelligence for the improvement of human life.

My purpose so far has been to show that we are in process of developing a new type of civilization, a new *Kultur,* a new temper of mind or outlook on life. This development is largely unconscious, but it is a direct and inevitable outcome of the application of science to life. If we permit men to get their hands on the tools by which they can control their environment, the rest must follow as the night the day. The attempt will then be made to translate the old transcendental values into terms of everyday human experience, and the underlying principles of associated living will then have no more intrinsic claim to finality and perfection than have the rules of football. These underlying principles are gradually being deprived of their old protections and claims to infallibility and thrown open to critical examination. The whole center of our spiritual life is shifting. We are developing a pragmatic, experimental attitude of mind. A new humanism is on the way.

This development is naturally attended by a certain amount of

friction and conflict. In some quarters there is a deep and easily understandable solicitude for the old values, which accounts for our fundamentalists, our hundred-per-centers, our Ku Kluxers, and our William Jennings Bryans. In other quarters a spirit of compromise prevails, as a result of which scientists and theologians vie with one another in demonstrating how science and religion may be reconciled. In still other quarters, notably in education, we are asked to believe that there is really no problem of an underlying philosophy at all. It is alleged that we need but cultivate the methods of science and all our troubles will presently disappear.

We are still in the thick of the plot. Although our concern at this moment is primarily with curriculum construction in the public schools, it will profit us to take note of the problem that is facing our colleges at present, since the need of reformulating our philosophy of education appears to be nearer the surface on the college level than elsewhere. The colleges of to-day are plainly uneasy. What is a college course for, anyhow? To say that it means spending "four years amid high thoughts and in worthy company and with worthy examples" may have been a sufficiently adequate statement in the past, but can no longer be so regarded. It is appropriate enough to talk of "high thoughts" and "worthy examples" if we take for granted that these items have all been rounded up and embalmed in the literature of the classical tradition. Or, to put it differently, the program of the old-time college was reasonably definite if we make the assumption that our intellectual, moral, and esthetic standards have been determined, once for all, and that the sole aim of a college course is to conserve this racial heritage. But this assumption is precisely what is being challenged, as a result of the scientific movement. Apparently we need a different philosophy of life, a different scale of values, a different scheme or program to live by. Consequently the college problem is not just a problem of adding new courses or improving our methods of instruction. The overshadowing question is the question of what it is all about.

In the main the response of the colleges to the scientific movement has consisted of the introduction of new courses and in making the whole course of instruction more severely technical. But this simply shifted the emphasis toward the training of embryonic scientists, and, so far forth, made the college course as rigidly vocational as a trades

school. It trained young people for vocations which they had no intention of pursuing. Consequently we are confronted with a state of affairs that has the appearance of a paradox. College enrollments have grown astoundingly, but at the same time the students seem to refuse to take college work seriously. Perhaps this appearance of paradox would vanish if the students were capable of drafting a specific bill of wrongs. Many of them come to college because the whole social order is in flux, so that people are turning more and more to education for guidance. They sense the fact that the old standards are losing their authority and they feel the need of a new basis on which to build their lives. Thus far we have made no serious attempt to furnish such a basis. Hence our young people are experiencing the pangs of adolescent disillusionment, which bears fruit in cynicism and an "earth-earthy" practicality.

From this point of view the great trouble with the colleges is that they have failed to revise their fundamental outlook or aim. A college education used to mean nurture in a great tradition, which provided an organized, unified world to live in. This trait of unity is being lost and the college course is tending to become a fearful mass of odds and ends. The fact that modern college education still succeeds in liberalizing the human spirit is gratifying evidence that there are limits to the professor's capacity for evil. "God moves in mysterious ways His wonders to perform." We can only guess what would happen if the college of to-day, with all its resources of intellect and equipment, were to organize itself effectively for the purpose of promoting liberal education, in accordance with the conditions and circumstances of the times. If this is to come about, it is necessary to secure a new outlook, a unifying philosophy of life, in order that all the parts of a college course may contribute to a common end, as was the case with college education in the past.

As I tried to suggest a few moments ago, it is possible to find a clue to a guiding, unifying principle of procedure in education if we adopt the belief that the change in man's spiritual attitude which has sprung from modern science is not only inevitable but desirable. If we take this point of view, then the whole tradition of fixed standards becomes simply a relic of our racial infancy. To use modern slang, the earlier generations, owing to the severity of the struggle with the environment, developed an inferiority complex. Men were dis-

posed to regard themselves as the playthings of fate; their whole existence, physical, social, and spiritual, was controlled by agencies which were as fixed and independent as the firmament itself. But now man is reaching his intellectual majority. He must learn to assume responsibility for his own future. Education must provide an escape from the bondage of tradition by fostering a realizing sense that human history is the record of a great adventure, in which man continuously re-creates his social and moral standards. On this level his criteria of values become mundane and experimental, not transcendental and final, and man's aspirations and efforts are directed more and more toward the realization of a new and growing social ideal.

It would be folly, of course, to allege that this spirit has not as yet found its way into present-day education. But it has not been made an explicit basis for the reorganization of education, and in particular it has not been made a point of departure for curriculum construction in the public schools and more especially in the high schools. Our next problem, accordingly, is to consider the bearing of this point of view upon the selection and organization of the subject matter that is to be taught in the schools. Our concern on this occasion, as I may remind you, is with "next steps" in curriculum construction, which I may interpret as meaning that our chief business just now is to determine the direction in which we ought to move. I propose to limit myself at this time to the question of the cultivation of attitude or outlook, on the ground that this is the most fundamental and most urgent need in American education. "One step enough for me."

Perhaps the simplest way to indicate the bearing of this point of view on curriculum making is to venture on a few illustrations. Let us take American history as an example. What should be our primary purpose in teaching it? Our first obligation, I should say, is not to enable pupils to comprehend historical allusions in newspapers and magazines, but rather to see our national history as a process leading up to this new attitude toward life. This seems to furnish a principle for selection and organization. The early colonists who came to these shores brought with them a certain background and a certain set of aspirations and ideals. After about a century and a half they issued the Declaration of Independence, in which they proclaimed a set of doctrines that were startling and almost alarming

when compared with their earlier beliefs. What had happened in between? We find here a tangle of factors—oppression by the English government, frontier conditions, which prevented the stratification of society, economic circumstances, the spread of the idea of natural law, the influence of writers like Locke and the French publicists, and so on. The period following the American Revolution would of course be treated in the same way, allowing for the appearance of new factors and the progressive clarification of the new social ideal. The emphasis would fall throughout on the idea that history is a process in which new ideals are continuously being created and that the present is as much of a transition stage as any former period. In particular it would avoid giving the impression, as seems to be done so often, that the present is the end of the road, the final stage of perfection, "the one far-off divine event to which the whole creation moves." History treated in this way would include much that is now commonly omitted, particularly in the way of intellectual ideas, and would presumably exclude much that is in the nature of mere incident, without particular significance. This approach provides a workable principle of selection, which has always been something of a problem for writers of history.

It is evident that the physical sciences can be taught so as to contribute to the same point of view. If it is true that science has revolutionized our whole outlook on the universe, including what we sometimes call spiritual values, this fact should not be permitted to escape notice. Pupils rarely get the significance of scientific method in terms of a contrast with prescientific or unscientific thinking. They do not commonly see science as a progressive annexation of one domain after another to the realm of natural law; they do not appreciate how science is making it necessary to revise our conception of truth; they do not get a realizing sense of the fact that science, even where it seems to be most final and conclusive, as in physics, keeps us living forever on the ragged edge of things and that man's relations to this universe are apparently bound to undergo an endless series of Copernican revolutions. In brief, they do not get the temper of the modern mind at all, except incidentally or accidentally. They do not get the significance of scientific method in such conscious and generalized form that it can be transferred readily to the other relations of life.

As the teaching of science is commonly conducted, it includes much in the way of technical detail that can be omitted without detriment to any important interest. On the other hand, it usually passes over many things, particularly of a historical character, that are of vital importance for the cultivation of attitude. Science and history, when taught in this other way, overlap and correlate and dovetail in all sorts of ways, because they both become integral and necessary parts in what I have ventured to call a pragmatic attitude toward life. Science would include more history and history would include more science, and the two would be mutually supplementary interpretations of the spirit of progress. This interlocking of subjects will go a long way toward restoring, on a new basis, the organization of experience and the spiritual kinship with all human beings which we have so long associated with the idea of a liberal education.

It is evident that a treatment of this sort would be readily applicable to the study of literature, which is so largely an expression of attitudes. The application to foreign languages and to mathematics is perhaps less clear. The suggestion lies at hand, however, that more time might be given to the nature and development of symbols and of concepts, so as to give at least a glimpse of the process by which the human mind has provided itself with certain instrumentalities for the control of its environment. Moreover, the emphasis on historical background all along the line will tend to rescue history from the unnatural status of being simply the record of a dead past and make it a means of understanding and controlling the living present. Our most urgent need at the present time is to cultivate attitude or *Weltanschauung,* as a background for appreciations and for vocational and intellectual interests.

To my mind, our complete absorption in the scientific problems of education has resulted in a lopsided development. There is a general drift or trend in the social changes that are going on to which we have not given the study which it deserves. Yet it is hardly an exaggeration to say that the problem which is raised by these changes is the central problem of our civilization. We are moving away from the old level, but what is to be our new level? The more we emphasize man's power to shape his own destiny, the more necessary it becomes to recognize the possibility that he will make a mess of it. Control over the environment may mean new incentives to the eco-

nomic exploitation of our fellows, both on the personal and on the political level, and, in general, a set of standards dictated by an ethical materialism; or it may mean the will to realize the poet's dream of a brotherhood of man and a kingdom of heaven on earth. In any event the problem calls for an interpretation and organization of values, which is not a problem for scientific research, but a problem of philosophy. It is not a problem for science because it is not a problem that lends itself to the application of scientific technique. The scientist has his own special devices for collecting and interpreting data, but these devices prove inadequate when the situation calls for a re-creating or reinterpreting of old values and old ideals. A discussion of the sort exemplified by this paper, for instance, does not properly come under the heading of any of the sciences. In my opinion all this industry called the "scientific determination of objectives" is on a par with catching birds by putting salt on their tails. The problem of ultimate objectives is not a scientific problem at all. The function of science is to reveal what agencies can or may be employed to realize ultimate objectives; it does not undertake to determine the objectives themselves.

It is time to recognize the fact that the study of education, in spite of all the advances that have been made, must necessarily suffer from a certain futility and triviality if we persistently disregard the deeper issues. The specialist in education is all too often a person who cannot see the woods for the trees, and who has a way of dealing with educational problems that makes his colleagues in other subjects want to commit murder. I hold no brief for these colleagues, who are usually staunch traditionalists in matters of education, except on one point. They represent an educational creed that has behind it a long and illustrious history. This creed provided a conception of man and society and cultural values which emphasized the dignity and worth of rational living and which often had the sustaining power of religion. Our present-day education is more informational and more practical, but has less of the disposition to "see life steadily and see it whole." We have plenty of reason to find fault with the kind of wholeness to which the classical tradition was so devoted, but we can scarcely deny that it had a certain quality of wholeness which our present-day education has not. It is because the traditionalist senses a difference of this sort that he feels bound to regard

the professor of education as a public menace. The fact that the traditionalist is hopelessly behind the times does not necessarily prove that his judgment is altogether wrong.

There are indications that the tide is turning, that we are beginning to feel the need of a comprehensive theory to direct our scientific investigations. This theory, as I have tried to indicate, must take as its point of departure the changes which have been wrought by science, in order that we may achieve a new conception of how intelligence is to function for the betterment of human life. With reference to curriculum construction, then, the most important or outstanding next step is the application of such a conception to the selection and organization of subject matter, so as to make the curriculum contribute to the disposition and power to "see life steadily and see it whole," in terms of the circumstances and opportunities of the modern age.

DISCUSSION OF PROFESSOR BODE'S PAPER

I

By HAROLD RUGG

Professor of Education, Teachers College

I

PROFESSOR BODE has said "one step enough" for him. In spite of the limitations of ten minutes—in which I can merely array captions and generalizations—I shall rush in where he feared to tread. For me, there are *two* crucial steps which curriculum makers can and should take now.

The first is coincident with that discussed in Professor Bode's paper. It is the construction of a comprehensive curriculum [1] theory with its roots in a scientific and philosophic study: first, of American civilization, second, of the needs, interests, and abilities of children —a theory, therefore, in which both American life and child life are comprehended and in which each is seen as an integrated "whole." The second step parallels and is concurrent with the first; indeed it duplicates it so closely that it is difficult to separate them. I do so merely for the purpose of emphasis. This second step is the exploration of the characteristics and the changing needs of American culture, the discovery of the chief concepts that guide intelligent thinking about that culture and the assembling of a curriculum of rich experiences through which children can develop a tolerant understanding of it and grow in the capacity to express themselves about it. The activities and materials of the curriculum, therefore, are to be based upon the known or predicted *concepts, meanings, generalizations,* and *trends* governing intelligent conduct in contemporary America. These concepts and generalizations can be found only by the most thoroughgoing analysis of American civilization. It is an essential element of my point of view, therefore, that a comprehensive

[1] In using the term "curriculum" I have in mind all of the processes of the school which engage the active life of the children. For me the term embraces all of the activities in which the children engage and the materials which they use—readings, open forum discussions, excursions, dramatizations, creative writing, painting, music, etc.

theory can be erected only *through* a far-reaching study of American culture in its historical and world setting.

It is clear, therefore, that the two steps are really one, and Professor Bode may be able to reply that they differ in no essential respects from his. I sincerely hope that that may be the case.

II

I shall speak first of the need of building an adequate curriculum theory.

I subscribe heartily to Professor Bode's pictures of the American educational scene and to his indictment of curriculum makers. Today we exhibit indeed an inadequate, a lopsided, theory; our practices *are* unbalanced, chiefly because of our conspicuous absorption in technique; there *is* indeed a sharp dualism between the American's absorption in practical affairs and his adoption of the classical tradition as the chief means of satisfying his spiritual and cultural needs. Although I find myself in complete agreement, therefore, with Professor Bode's arraignment I should like to restate it, to provide the point of departure for my discussion of crucial steps in curriculum construction.

The contemporary American school is a replica of the mind of the Economic Man. That mind has been in the making for three hundred years, from eastern Germany to the Golden Gate. Europe—living under a stimulating climate, inheriting great stores of coal, iron, and other minerals, located at the center of the hemispheres in a strategic position for world trade—produced in three hundred years the intercontinental regime known as "industrial civilization."

This civilization of four hundred million people, produced by Europe since 1600, is a *totally new entity,* both in physical paraphernalia and in dominating attitude of mind. Emerson's description of the Puritan[1] regime in 1842 holds good for the Puritan regime today: "Things are in the saddle and rule mankind."

This new civilization was initiated by a series of remarkable inventions of physical measuring instruments which made possible a startling reduction in error, by the development of theoretical mathematics, by the empirical method of the inductive sciences, and by the application of all of these in the efficient exploitation of the physical world. The result was, I say, *a totally new entity—new modes of*

[1] The term is descriptive, not epithetic.

living and new attitudes of mind. Professor Bode has commented on certain physical aspects of industrial civilization and has hinted at the warping effects of this ultra-consumption of technique upon educational philosophy.

By the middle of the 19th century the exploitive and acquisitive development of the western man precipitated a new philosophy—pragmatism. New concepts were phrased by the philosophers of the Economic Man: Charles Sanders Pierce—engineer, statistician, logician, inventor of pragmatism, or "pragmaticism" as he called it; William James—scientist and radical empiricist, for whom "there was no conclusion"; John Dewey—rationalizer of evolution and industrialism, and devotee of the scientific method. These three thinking men have in a half century become the self-conscious mouthpiece of the Economic Man. The latter's slogans of efficiency, scientific management, standardization, mass production, have warped the attitudes of philosophic thinkers in American civilization and produced the pragmatic philosophy. Worse yet, the domineering concepts of "conformity," "thrift," "sacrifice," "the good of the greater group" have led the professors of education to state as the highest goal of education the doctrine of "social efficiency."

In the meantime the creative artist has been inarticulate, shunted into technology—witness, for example, the young painters, Robert Fulton, Samuel Morse, William James!—and the psychology of the creative act has been ignored.

Hence this striking lag of creative self-expression behind economic exploitation in our western civilization. Hence the dominance of the scientific view of adaptation, adjustment, and conformity as the *sole* guiding aim of educational endeavor. Hence also the separation of the cultural life from its economic and practical matrix. Hence the dualism to which Professor Bode refers.

I have restated Professor Bode's indictment in order to support emphatically his contention that, more than anything else, we need a comprehensive educational theory and to point out the need for obliterating the gap between the critical mind and the exploitive mind.

III

This lag of the creative behind the exploitive in the western world is the most important single outcome of the industrial revolution.

We educationists have completely overlooked it! It, however, should point us to our first step—the acquiring of an integrated view of American civilization.

Can we get this integrated view from the professors of education who have assumed the directive control of the rebuilding of the school curriculum? We cannot. Can we get it from the scientists —the psychologists, the economists, the students of government, the epistemologists? We can not. Can we hope to obtain it from the students of any other *one* department of American life and education? I am confident that we can not.

How, then, can an adequate curriculum theory be built?

Only, I am convinced, by the assembling of all of the analytic and creative resources of the American mind. A thoroughgoing philosophic and scientific study must be made of American culture in its historical and world setting. Our American culture—its far-reaching economic base, its hectic political experiments, its rapidly changing social mores—is a complicated mechanism in which the tangled interrelationships of its hidden psychological forces are baffling to the most mature students.

We professors of education lack many of the traits needed for the development of a sound curriculum theory for this American culture. We must do two things: first, call to our assistance others whose equipment will supplement ours; second, drill *ourselves* in the rigorous study of the guiding concepts, generalizations, and trends of American life.

As for the former step, we need *first,* to bring together the intuition of those artistic searchers after essence—the poet, the novelist, the painter, the architect, the dramatist; *second,* the fact-finding and the law-finding technique of the scientists; *third,* the predictions of the industrial and business analysts; *fourth,* the century-long and world-wide perspectives of the historians of civilizations.

American curriculum construction has never assembled for conference these absolutely interdependent traits. It is true there have been conferences recently of informal groups of professors of education, sociology, economics, biology, philosophy, sponsored by such agencies as the Commonwealth Fund, the National Council of Social Science Research, and the National Society for the Study of Education. But these have always weighted their discussions heavily with

one individual trait or another and even the broadest of them have never been able to stand aloof from an academic view of American life.

I think, therefore, that this use of the conference method—this launching of artists, scientists, historians, economists, and educationists on a common adventure of understanding—is one of the needed next steps in the building of a comprehensive curriculum theory.

I am proposing, therefore, a new type of curriculum conference—*continuing* forums, which will assemble together outlanders who have never been regarded as eligible for an educational conference, but without whom a true forum is impossible. There is emerging in America and Europe to-day, mainly outside our academic circles, an important group of creative critics of western culture. These men are not hampered by the blinders of "social efficiency," the doctrine of adaptation, the tabulation of present practices, and the searching for "the articulation of administrative units." They are exploring causes, trends, movements. They are not photographing the surface of industrial civilization; they are digging deep to its roots. I am confident that we must make ourselves a part of their group and make them members of ours.

But there is another step, comparable to this use of the conference method, and even more imperatively demanded. The professor of education must *himself* become a student of the deep-lying forces of American culture. It is nothing less than the most severe intellectual effort to which we must give ourselves. We are now immersed in a hectic slough of fact-finding technique. We tabulate, plot, average, correlate, and compute measures of reliability and validity. Most of this activity is much ado about almost nothing. (You should have pass under your eyes each year the articles submitted to any one of our technical journals!) Educational salvation via statistics! The discovery of "law," of recurrence, is not the consciously phrased goal of our scientific activity. We must, I say, drill ourselves in the study of the crucial concepts of the western mind, and in the contrasting *concepts* which dominate other civilizations. We must make ourselves masters of the chief *trends* governing the current rapid transformation of civilizations. By some method or other we must ourselves come to glimpse at least the significance of the chief generalizations concerning economic, political, and cultural life.

IV

Professor Bode has made an implied attack upon certain pseudo-scientific practices now current among curriculum makers. For example, the preparation of courses in history and geography from the tabular analysis of historical and geographical allusions in newspapers and magazines. I wish to second heartily his denial that this is a sound method of curriculum construction. But I do not subscribe to the notion that the scientific method has no rôle at all in the reconstruction of our school curriculum. I do not think that Professor Bode does. We shall see.

In curriculum construction we are now in the midst of an orgy of exploitation of the method of tabular analysis. This reveals itself in the widespread tabulation of the contents of school courses of study, of "most frequently used" textbooks, of stupendous quantities of bibliography, of historical, geographical, civic, and scientific facts in our evanescent daily press. Should this hectic search for the facts of contemporary practice, both in and out of school, be regarded as one of the most outstanding next steps for curriculum makers? Emphatically, it should not. The attempt to reconstruct the American school system by the tabular analysis of its current practices is on a par with the perennial attempt of the mass mind to lift itself by its boot straps. (Millennia of failure seem about to convince the "leaders" of the mass mind that it simply can't be done!) It is a static, indeed a stagnant, procedure. It will merely perpetuate the century-long lag between the curriculum and economic, political, and cultural life.

Remember, I am discussing "tabular" analysis from the standpoint of its use in the development of curriculum theory and in the fundamental reconstruction of our school curriculum. While that theory is being developed and that curriculum being rebuilt, we must continue to operate the American school system. Hence, we must no doubt proceed by the hesitant, makeshift method of accretion and elimination. No doubt *small* improvements in the form—*but not in the content*—of American school curricula can be made by the imitation of those practices "judged" to be best. But a sound curriculum theory for American schools will develop only under the impulse of creative intelligence. Imitation will merely debauch it. Tabular analysis of contemporary school practices is essentially imita-

tion, not intellectually creative, and hence has little or no place in the real reconstruction of our curriculum.

Is there no place at all, therefore, for scientific method in curriculum construction? Yes, I think there is. It shall play a rôle, but only an instrumental one. The scientific method is an efficient tool for the discovery of central tendencies and important deviations. It will aid in the detection of trends, of relationships, and of law. The curriculum maker, therefore, must not ignore the services of this important tool. American civilization in its world and historic setting is so complicated that the discovery of its chief characteristics, its trends and central tendencies on the one hand, and the discovery of the striking concepts of the critical mind on the other, will compel us to make use of every agency at our command to compass it. The systematic analysis, first of the mass economic, political, and social activities of men will aid the student of educational theory in discovering the important concepts, generalizations, and trends which have produced our contemporary order.

The "tabulation" must be of crucial matters, not chiefly surface symptoms. We need, therefore, a systematic analysis of great trends, the rising and falling of institutions, the emergence and decline of civilizations. The relatively provincial curriculum maker will be helped by tabulation provided it is tabulation of cue concepts, far-reaching generalizations, not of unimportant events, dates, persons, and transitory matters of daily life. Analysis is a necessary preliminary step, and of course analysis must be aided by the most efficient tools which the last three centuries of inductive science have contributed. Furthermore, it is analysis of the *chief concepts with which the critical mind thinks about modern civilization* and not analysis of academic school curricula, present administrative practices, that we so seriously need. It is at this point that we must have much serious thinking, much interpenetration of mind, much impact of attitudes from individuals who range widely in scientific, artistic, and creative point of view.

V

My ten minutes is gone, and in spite of the fact that this statement is merely a succession of generalizations, I have not yet referred to what may prove to be as crucial a next step as that which has been

discussed. I refer to the imperative need for reconstructing our curriculum so as to give a place to creative self-expression coördinate with that of the acquisition of socially worthwhile racial experience. Central to the building of an adequate theory (and coördinate in importance with the study of modern life) is a firm grasp of one fundamental principle of educational reconstruction. This is that maximum growth in tolerant understanding of American civilization and in artistic self-expression can never be developed except through the creative and assimilative activities of pupils themselves. The philosophy of the school of the Economic Man still denies this. Conservatively estimated, not ten per cent of the energy of children in the rank and file of our schools is now devoted to self-expressive activities. Worse yet, the preponderance of persons now active in the reconstruction of the American school curriculum—whether or not they give lip service to the philosophy of self-expression—really hold to what Professor Kilpatrick has styled the "subject-matter-set-out-to-be-learned" theory of education.

Reading between the lines of their pronouncements we find that even the eminent leaders in the application of scientific method would impose education from without, not develop it from within. Nearly all of them still subscribe to the conventional "subject" organization of the American school.

In the development of an adequate educational theory therefore, as well as in the reconstruction of the curriculum itself, the conception of creative self-expression must play a much larger part than it has been permitted to play in the past.

VI

In summary, therefore, I return to the statement made at the beginning. The crucial next steps in the construction of the American school curriculum are: first, the erection of a comprehensive curriculum theory—a theory developed out of a broad, scientific, and philosophic study of American civilization and of child life; second, the experimental development of activities and materials, *selected consciously* because they give promise of contributing, first, to the cue concepts, meanings, and generalizations upon which growth in tolerant understanding is based; second, to maximum growth in self-expression.

II

By FREDERICK G. BONSER
Professor of Education, Teachers College

I AGREE fully that the first and most outstanding need in curriculum making is the development and acceptance of a comprehensive attitude or outlook on the purpose and meaning of education. I accept also the controlling characteristics of the outlook or attitude which has been portrayed by Professor Bode as I interpret his presentation. If the construction I place upon his meaning is incorrect, he may disclaim it and I shall assume responsibility for the attitude as my own.

This outlook or attitude regards man as becoming responsible for his own future, free from the controls of tradition and the sanctions of external authority. It derives support from the multitudinous facts of change in recent years in the material conditions of living, in social institutions and practices, in the mobility of populations, in the general acquiring of reading ability and interests, in the trend toward economic, social, and recreational equalization, and in the development of independence of judgment in man in determining his own conduct. With all of these changes, it recognizes also the permanence of the drives in mankind for survival and satisfactions. Out of the conflict between the changing facts of life and the worth of the life affected by changes, emerges the new outlook or attitude. This point of view sets up survival and satisfactions as the ends, and changes as the adaptations of life by which these ends are increasingly achieved. Education has to do with ways of living and not with acquisitions of knowledge alone. Whatever will contribute to greater richness of experience, free from destructive influences, is good, irrespective of traditional authority or sanction.

In discarding tradition or custom and becoming responsible for his own conduct, the young person has no adequate, working substitute for control by authority. The attitude of freedom, which may be very superficial, outruns ability and training to use freedom when the restraints of authority are removed. Out of this situation of transition from the old conception of life and education as predetermined and fixed, to the new conception of life as progressive growth, emerges

the problem of curriculum making second only to that of cultivating the new conception itself.

Independence of judgment and self-control require a knowledge of facts and their significance in the control of action; a knowledge of the consequences of the several courses of action among which one may select; and practice in choosing among alternative courses and experiencing the results. In my judgment, after developing a progressive outlook, to provide adequately for the cultivation of selective judgment and the correlative knowledge required for making intelligent judgments is the most crucial practical question confronting curriculum makers. To this one question I shall confine my attention.

Among the needs most apparent for greater values in social and individual survival and satisfaction, the more outstanding functional or instrumental controls are these:

1. A greater working knowledge of science and its applications in the solution of daily life problems, with special reference to health, safety, economy, eugenics, and euthenics.

2. A greater working knowledge of the facts, forces, and relationships of social life as these relate to community and civic activities and as they affect local, national, and international attitudes.

3. A greater participation in individual and group responsibilities for the selection, planning, and executing of school, home, and community enterprises.

4. A greater working knowledge of the facts, problems, and methods of consumer functions with reference to health, economic, æsthetic, and social values.

5. Greater familiarity with the cultural resources of our race inheritance and habits of using these with satisfaction and enjoyment.

6. A larger participation in the expression and development of creative impulses and techniques.

Despite the fact that we live in an age of science; despite the fact that economic and social interdependence is both intensive and worldwide; and despite the fact that the practical and æsthetic arts have a more nearly universal relationship to individual and social life than ever before, the curricula of schools at all levels tend to give science, the social studies, and the arts subordinate consideration. But a smattering is provided in each of these fields in so far as it relates to the responses and controls of individual and social life.

The results of this neglect are to be measured by the wide gap between our common behavior as it is and the behavior that might be if we used available resources with intelligence and efficiency.

To account for the inefficiencies in ability to select wisely, to think straight, and to eliminate the shortcomings with which we are confronted, we find the elementary and secondary schools responsible in a degree that is deplorable and humiliating. In 1924, by the study of time allotments in the first eight grades of our schools, published in a research report of the Superintendents' Section of the National Education Association, we find that 50.7 per cent of the total elementary school time, including recess periods, was given to reading, spelling, writing, arithmetic, and language, the formal studies. Only 18.9 per cent was given to history, geography, civics, science, and industrial arts. Spelling and writing received practically the same amount of time as history, geography, and civics. Arithmetic received two-thirds as much time as all of these thought subjects combined. Spelling was given more time than in 1904 and writing as much. In high schools the emphasis upon mathematics, foreign languages, and formal English continues the stress upon mechanical facts, techniques, and skills. In many a liberal arts college curriculum the disciplinary conception of education continues to dominate. In elementary school, high school, or college, what chance has been given to the pupils or students to develop selective judgment, to engage in selective thinking and acting? Two answers will be given by many educators when pressed with the question. One evades it as a curriculum question entirely by reciting the extra-curricular activities of his school, thus confessing his awareness of the barrenness of his curriculum. The other defends his mechanical curriculum by resort to the disciplinary conception of education and his faith in the transfer of training. He points that students must learn to think and to think with exactness in mathematics, foreign languages, and grammar. He makes the age-old blunder of identifying demonstrative thinking and selective thinking. In spelling, in mathematics, in foreign language vocabularies, and in grammar there is no freedom for selective thinking. Conformity to predetermined authority is very nearly absolute. Results either are right or they are wrong. The individual has no option but to accept whatever is established. There are no possible alternatives among which to choose with varying consequences to be weighed

and evaluated. Questions of relative worth for human well-being scarcely enter at all.

Even in the other subjects, as often taught, problems of thinking offering opportunity for selective judgment are largely ignored. In the very method of studying such science as is taught the student may be permitted or even helped to develop an unscientific attitude of mind. The social studies are often so taught as to develop prejudices, intolerance, and provincialism—anything but scientific and wholesome social attitudes. As President Morgan of Antioch College recently pointed out, in many colleges the honor system has had to be abandoned because the necessary integrity was lacking among the students. If the lower schools have not developed capacity and attitudes for freedom and responsibility within the limited fields of college life, then what must be the situation with reference to the world at large where one must constantly make decisions which are tests, not only of integrity, but of all of the other qualities of efficient selective thought and action?

To develop curricula which will provide experiences and training in ways of behaving in matters of large and continuing social importance is, I repeat, the most pressing problem in curriculum making, following the development of the appropriate attitude or outlook on education as a whole. All the elements entering into the attitude suggested by Professor Bode are compelling in their emphasis upon the importance of provision for selective thinking and acting. This attitude would have man free—free to control his own thought and action. But such freedom in a social world imposes responsibility for the consequences of one's thought and action. Without experience in selective thinking and action, with only ignorance of the probable results of alternative courses of action, one is a slave and a menace—he is not free in the larger sense at all. Together with participation in selective thinking and acting, should be brought to bear the knowledge of consequences of various types of action accumulated through the experience of man as represented by the content of science, the social studies, and the arts. Through participating activities guided by the combination of one's own intelligence and the experience of the race, one's knowledge becomes wisdom—working knowledge which includes awareness of the probable results of optional courses of conduct and their relative worths.

Of course the curriculum must provide for the mastery of the "three R's" and other formal techniques necessary as tools. But the time allotted to these mechanical techniques is out of all proportion to their need or appropriate place in education. That we still spend almost as much time upon these subjects as we did a quarter of a century ago should be very humiliating to educational psychologists and to all of us. We spend nearly as much time now in learning to spell 5,000 words as we did thirty years ago in learning 10,000, and if the young students I know are typical we do not do it twice as well. More time for selective thinking and activities together with the correlative subject matter of the studies is desirable and available. But more important than the time element are the spirit and attitude in suggesting and organizing the questions, activities, and materials for curricula to give opportunity for education in meeting the important problematic situations in life. By social surveys of practices rated high as measured by both the immediate and the continuing purposes of life, activities and questions of direct educative value for any level of school use may be found in abundance.

I am not unmindful of the significant curriculum problem of providing for wholesome, refined, and enriched cultivation of the emotional life, nor of the pressing need to afford means of guidance and life planning in accordance with capacities and the occupational opportunities representing the world's work. But I submit as of yet greater and more inclusive importance this problem of providing adequately for the development of selective judgment. It applies to conduct in its practical, its ethical, and its cultural aspects. It is the problem of affording experiences and materials through which learners may develop ability to choose among alternative courses of thought and action with that intelligence which includes a sense of social responsibility for the consequences of their choices.

III

By DAVID SNEDDEN

Professor of Education, Teachers College

I

EVERY paragraph in Dr. Bode's very interesting paper is essential to an understanding of his theme. There is danger of misinterpreting him, therefore, if one selects only a few outstanding points for discussion. That, nevertheless, is what must be done by a person appointed to "discuss" a rounded essay.

As I understand him, Dr. Bode, considering the problem expressed in the title, finds:

First, "that the old sense of a supersensible reality—and which is the traditional basis for moral and religious authority—is passing away" (and that as a consequence) "men are learning to judge right and wrong in terms of consequences rather than in terms of a set formula."

Second, "it is possible to find a clue to a guiding, unifying principle of procedure in education if we adopt the belief that the change in man's spiritual attitude which has sprung from modern science is not only inevitable but desirable."

Third, "this spirit—has not (yet) been made an explicit basis for the reorganization of education and in particular it has not been made a point of departure for curriculum construction in the public schools and more especially in the high schools."

Fourth, "our most urgent need at the present time is to cultivate attitude or *Weltanschauung* (an attitude of), as a background for appreciations and for vocational and intellectual interests."

Finally "the problem (of using education to help man towards right control of his destinies) calls for an interpretation and organization of values, which is not a problem for scientific research, but a problem of philosophy."

II

The present reviewer sometimes finds himself in agreement with Dr. Bode's conclusions while being unable to accept the premises suggested as the sources of such conclusions.

In the present instance he thinks Dr. Bode greatly exaggerates both primitive man's helplessness or lack of control of nature, and modern man's degree of such control through science. Of course these matters are all relative. But we must not forget that men of the empires long antedating the Roman learned to control horses, and Mesopotamian elephants, and the wheel. When men learned to control fire—perhaps more than a hundred millenia ago—they had made in all probability the most signal advance ever made by men on this earth toward mastery of nature for human ends.

Again, Dr. Bode infers from what seems to the reviewer altogether insufficient data, "that the traditional basis for moral and religious authority is passing."

But, historically, there have been, not one, but scores and hundreds of these traditional foundations. Each one in turn in its fresh youth was flexible, adaptable, responsive to "the spirit which giveth life." But, no less, each one in turn in its old age grew inflexible, arbitrary, dedicated to formulae—and presently perished like an old tree. "Both theology and politics are showing signs of wear and tear," says Dr. Bode. No, indeed. Only some fixations of politics or theology are showing wear and tear—like ten-year-old-model automobiles. New political systems and new theological systems will presently arise, fresh, flexible, and shiny in their newness, to win support.

True, science itself will be drawn upon, so far as available, for the new creeds, standards, valuations—just as much of it as was available and was drawn upon by Moses, Buddha, Jesus, Mohammed, Luther, Mary Eddy.

> The old order changeth, yielding place to new;
> And God fulfills Himself in many ways
> Lest one good custom should corrupt the world.

III

Nevertheless, Dr. Bode's inference, noted in the second quotation given at the beginning, has much in its favor. Good education now, as two thousand years ago, must "prove all things and hold fast to that which is good"—good, that is, toward "life more abundantly," toward realizing the golden rule, toward making the most of the "spirit of God" which is in us all.

And yet, good as the inference is, the reviewer finds himself unable to go with Dr. Bode in the contention expressed in the third quotation above. How does Dr. Bode know that the best education of to-day—or even the fairly good in a multitude of American cities—has not gone as far as has yet been practicable in making this scientific spirit explicitly the basis of curriculum reorganization? The present writer has long felt, for example, that American high schools were unduly slow in modernizing many features of their curricula. But his grounds for such criticisms have been far different from Dr. Bode's—and, he believes, far more supported by evidence of present social need than is Dr. Bode's "urgent need," expressed in the fourth contention above, for an attitude of *Weltanshauung*.

If only Dr. Bode would recognize the growing necessity of "division of labor" in modern life! For at least ten thousand years and probably far back of that the advancing peoples of the earth—as toiling men, burdened women, growing children, all, often, of little potential capacity for intricate thinking—have had to leave the planning of irrigation works, temples, governments, defense, religious creeds and rituals, and the arts to a few men and women of exceptional talent and specialized function. Must we not now, more than ever, rely upon similar and even more far-reaching divisions of labor?

But, Dr. Bode would reply, let our reconstructed education make the intelligent audience, the appreciative clientele, the critical citizenry, the watchful followers, the well-informed, utilizing public! Even here, however, all open roads point to still more division of labor and specialization of function. Many of us are too immature, and perhaps four-fifths of us are too lacking in ability, in spite of all educations which may be invented, to become good appreciators of wholesome meats or of efficient political service or of serviceable city planning or even of good municipal art. So we proceed ever again to delegate our responsibilities to the few whom we can trust—through commissions, specialists, experts. These are the cold, even if not unpalatable, sociological facts.

Recognition of this, of course, does not mean any less reliance of societies upon education in the future. But it does take the wind out of the sails of Utopian expectations from education. We were told only a decade ago that America was a nation of seventh graders. The effective sociological reply is that those who made the Union in

1789 and the thirty years following were probably a nation of third graders, and that those who saved the Union in the decade of 1860 were certainly not more than a nation of fourth or fifth graders.

IV

It is, however, to the fifth of Dr. Bode's contentions referred to above that the present reviewer wishes to take most positive exception. "In my opinion," says Dr. Bode, "all this industry called the 'scientific determination of objectives' is on a par with catching birds by putting salt on their tails. The problem of ultimate objectives is not a scientific problem at all."

The catch is, of course, in that word "ultimate." So far as the reviewer is aware, no man in his senses ever proposed to apply "scientific method" to the determination of *ultimate* values. Any scientist knows what a mess of that job religion and philosophy themselves have made. The universe of space and time and matter is so large that any application of the term "ultimate" must seem a bit of sophomoric conceit. Even when restricted to what may come to light in the next thousand years, the term savors of the grotesque.

But the case is far otherwise with schemes of *proximate* values. Can we not all think of a United States as free from tuberculosis as it is now free from typhus? Can we not all vision the increases of human happiness which might result from a gradual replacement of "seasonal" by year-round work? Dr. Bode and his philosophical friends are certainly working hard for peaceful methods of settling international disputes—and they know well enough that only widely developed scientific methods of obtaining economic and other data will enable nation-builders to hold even the scales of justice as between nation and nation.

Does not, indeed, a considerable amount of the mild cynicism and even pessimism of contemporary statesmen, educators, social reformers, and other workers in social reconstruction arise, not from any comparison of present social conditions with those of the past—for in almost all respects we are here ahead—but rather from their vivid perception of the transparently clear goals of human well-being which "seem so near" and are yet "so far" just because scientific determination of educational, political, and other means to proximate goals of collective effort have not gone far enough?

No one knows better than the sociologist that problems of "values" —social values and personal values, health values and economic values, æsthetic values and religious values, materialistic values and spiritual values—seem to be among the most baffling which now loom upon all roads to the future. But we must take courage from the natural scientists. A few years ago a skeptic said in Dr. Steinmetz's presence, "Man has not been able to make protoplasm in his laboratories." "Nor has he been able to make granite," retorted Steinmetz. Scientists say little even now about the "ultimate" natures of matter, energy, time, or life. But it is noteworthy that the scientists have gone far enough in these fields to provide a vast array of suitable objectives of practical utility towards which men can strive for some generations to come. It is also noteworthy that such achievements as they have recently made in effect remove these topics largely out of the realms of confident religious and philosophical discussion altogether.

We have now the promising sproutings of a science of educational values. But these are no less proximate values than are the "food values" given by dietetic science. The writer has not yet met a dietitian who thought it was incumbent on him to try to prove that it is better to be alive than dead, to be whole of skin than to have scurvy, to have sound rather than diabetic kidneys. These are problems of relatively ultimate values, perhaps, in a physiological sense; and doubtless the dietitian is willing to leave their solutions to religious and metaphysical thinkers, if the latter care to take them on.

The parallel holds for educational values. If men care to agree that literacy is better than illiteracy, then educational scientists can work on very concrete problems of determining what kinds and how much of spelling, silent reading, Latin, and practice in reading good books will assure competencies of the kind which make up literacy.

"What shall it profit a man if he gain the whole world and lose his own soul?" That is a problem of ultimate values, doubtless.

But "what shall it profit a man if he gain wealth or a college degree or good looks if he lose his health or culture in the process?" presents a series of problems of proximate values to which we shall be able to apply scientific methods in growing measure. Of course, we must postulate relatively basic values—many of which, as realistic valuations in us as throughout the animal world, rest on such bio-

logical valuations as that it is better to be alive than dead, well-fed than starved, progenitive than sterile, group-conserving rather than self-conserving. Of course, too, many basic valuations which have accrued to human societies over the centuries will have to be postulated—as that it is better to be clothed than naked, free than enslaved, possessed of goods than impoverished, trained to produce rather than untrained, hopeful of the future rather than hopeless.

If philosophy or religion or any other discipline can help us better to orient, define, and give concrete application to these relatively remote, basic, or even ultimate values and their tentative or customary expression in collective valuations, certainly educational scientists will welcome the coöperating service. But in the meantime their hands and minds need not be idle. Within the realms of inclusive values as to which there is little dispute—areas of security, health, righteousness, wealth, knowledge, beauty, religiousness, fellowship, and fine progenitiveness—there remain to be worked out thousands of concrete problems of the educational values, of which our reconstructed school curricula are to be made.

But, let us be modest in our expectations of solutions of problems of relatively ultimate values. The present writer sees much merit for this purpose especially in the imaginings of Bernard Shaw in the Fifth Drama of his "Back to Methuselah." But he appreciates also the wide applications of Tennyson's

> Flower in the crannied wall
>
> . . . .
>
> If I knew you for what you are,
> . . . all in all,
> I should know what God and man is.

V

What, then, should this criticism lead to as regards Dr. Bode's suggestion of "the most outstanding next step for curriculum makers"?

Certainly we can approve Dr. Bode's contention that since man (humanity) (at least in a few advanced centers) has reached a kind of maturity which entails that "man must learn to assume responsibility for his future," "his criteria of values become mundane and experimental (to replace those which were) transcendental and final." That agrees with Ward's notion of "telic evolution."

Very good. But since we now recognize thousands of kinds (in a qualitative sense) of these values as unlike each other as high ideals of civic duty and competency in a specific trade, as excellent habits of oral hygiene and appreciative tolerance of the religious faiths of our fellow men, as love of good books and devotion to outdoor recreations, as knowledge of African geography and ability readily to write fairly good letters—surely the most urgent next step in curriculum construction is somehow to schematize, array, and exhibit these values (or valuables, or things of social worth), and so described in explicit and realistic language that all careful students may know exactly what is meant.

In the presence of an array of these social values described qualitatively, it seems certain that research can then be stimulated toward endeavors to answer these three next questions, without fairly dependable answers to which, of course, scientifically based courses or curricula are quite out of the question.

a. How much of any one stated value seems optimum for specified types of social members (for their own and their fellows well-being)?

b. What kinds or stages and how much of such value can best be realized through educations of any sort? And

c. What kinds and how much of such values should properly be realized through *school,* as distinguished from other kinds of probably functional, educations?

All this leaves unsolved certain large and obvious problems of relativity of social (and, by consequence, educational) values. But, unfortunately, there is no evidence that religion or philosophy can help us to find foundations to test relative values even as good as those given by the assembled and ordered common sense and intuitions of mature man.

LIMITATIONS OF THE SCIENTIFIC METHOD

By R. B. RAUP

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WHY the vigorous attacks to-day upon the claims of exact science? Yesterday it was a panacea for human problems of every kind. To-day it is a "false messiah." Less than a generation ago the grammar of science was hailed as the approach to the language of final mastery in every field of human concern. To-day it is being viewed by both philosopher and man of affairs as only a part-truth, which, when applied, satisfies neither the speculative mind nor the demands of everyday affairs.

What, then—is science all wrong? Certainly not. Its conquests have been so marked that a recital of them is not necessary for the general reader. But if we are to avoid a pendulum-swing away from the good that inheres in the scientific method we must ask ourselves just what this good is and just where it ceases. Why has science failed as an exclusive emphasis in method? There come times for re-study, the reconstruction of the patterns of human thought, and such a time seems to be upon us now.

Man relies so much upon his reflective powers that it is a serious matter when they get patterned in ways which do not meet the needs of his life. Whether or how this has happened in the case of science is the object of the inquiry of this paper. There is no doubt that it has happened in other instances in past ages. The way of thinking, for example, which arrived at animistic beliefs gradually yielded to the methods of the Greek thinkers. These new methods, in turn, took form in a stated system of logic. This system was prominent as the pattern of thinking for many centuries. Then there came a change which developed gradually until Francis Bacon gave it stated form in the *Novum Organum*. The emphasis upon deduction gave way thus to the experimental, inductive method, which has been the vogue in thought about thinking since that time.

The old ways of thinking have at first only vaguely revealed their inadequacies through a process of hard life experience. The better ways have accordingly been more or less blundered upon. Usually the transition in actual effective thinking has taken place before any one is clearly aware of what is happening to it. Then finally some one makes a thoroughgoing analysis and statement of the new pattern. Francis Bacon came late in the development of the type of thinking to which he gave statement in the *Novum Organum*. Dewey in *How We Think* makes explicit the patterns of thinking which for two generations have been emerging as the actual *modus operandi* of the minds of those who have been most influential. And to come to the present year, Bogoslovsky,[1] in his statement of the dynamic logic, has restated, even more fully than Dewey himself, the latter's own way of thinking, as representative of the growing practice of our period. Passing forms with their annoying inadequacies have thus gradually given way in practice to better forms, and eventually some one has put the new form into definite statement. There is much to heed in the saying that "the head does not hear anything till the heart has listened, and that which the heart knows to-day the head will understand to-morrow."

The period of gradual transition, before the thorough statement comes about, is marked by a growing sense of annoyance. The prevalent thinking patterns are not meeting life's needs, while life's needs insist impulsively upon being met. When people are thus annoyed they do one of at least three things. First, and probably most commonly, blame is put upon something other than the thinking. It does not even occur to them that the method of thinking might be the source of the difficulty. Second, the trouble may be traced to the imperfections of the thinking itself, but there comes an impatient jump to the generalization that all reason is finally inadequate and that we must turn to some supra-rational source of guidance. In the third place, some realize that the difficulty lies in the method of the thinking itself, and squarely face the necessity for repatterning it for increased adequacy.

All of the recourses which men take under such circumstances are readily noticeable. In the first place, we must consider the disposition to discredit something other than the method of thinking itself. The fundamentalist, or the absolutist, is laying blame at the door of

[1] Bogoslovsky, B. *Technique of Controversy*, Harcourt Brace, 1928.

the dauntless sciences, and the sciences are berating the obscurantist minds of the fundamentalists, for the failure of the present corporate mind to think its way to satisfactory social adjustments. Neither thinks to question the presuppositions of his own technique of thinking. When the evolving world of man and nature will not yield to the authoritarian, deductive thinking of the fundamentalist, it is not his method of thought which he attacks, but the unregenerate nature of the person who comes to any other conclusion than his own. Again, if the phenomena of conscious life will not yield to the way of thinking of the extreme behaviorist, he is not apt to examine his fundamental thought patterns. He rather belabors the unprogressive mentality of those who posit even the existence of such things as the phenomena of consciousness. The trouble is our thinking is not clearing up these questions enough for us to go ahead to other conquests. Thus the futility of our disposition to take for granted the correctness of our ways of thinking, and to blame our failures on some agency outside.

There are, in the second place, always a few who do see that the trouble is with the thinking patterns themselves, but who become discouraged and take refuge in some supposedly unique source of light. Kant and Bergson are outstanding among those who thus eventually discredit reason as a guide of life. On the other hand are Whitehead and Dewey, lending the weight of their thought and influence to the establishment of guidance through reason as our only recourse. To desert it, when it proves temporarily inadequate, is, to such thinkers, analogous to leaping from an aeroplane upon discovering that it will not in its present structure perform as many tasks with as great facility as one would like. How much wiser to come down gently and to look the mechanism over with a view to making it achieve the ends we wish!

In the thinking of religionists, this distrust of reason persists in quite modern circles. "You can learn a great deal about many things by adding, subtracting, dividing, multiplying, by getting statistics, making generalizations, and developing theories, but you never can learn the deepest things about persons that way. . . . We must have spiritual adventurousness to set ourselves to organize the world for peace . . . until we have worked our way to the conclusion, not arriving by a Q.E.D. method, but by spiritual adventurousness. Only so can we prove a proposition in such a realm." [2] This author would go beyond

[2] Fosdick, H. E. In *Religious Education*, 23:474-75 (May, 1928).

reason for the most important knowledge in life. He distrusts reason in the most crucial moments and relationships. Thus, strangely, does he reason to the discredit of reason. The difficulty is that only two alternatives are seen—reasoning to a Q. E. D. and not reasoning at all. The use of the reflective powers comprehends far more than reasoning toward a Q. E. D. What the above author describes as knowing in some other way is largely included in less closely defined functions of reasoning. This he seemingly fails to see. Before the thinking itself has been carefully examined, he jumps to a conclusion that since one pattern of thought fails, all are untrustworthy or inadequate.

In the third place, there are those who see in reason the only recourse for guidance and who, becoming aware of imperfections, strive to find more adequate ways and patterns. To hold that the method of the exact sciences is not fully adequate to human needs is not to imply that all reason is therefore untrustworthy. It rather challenges us with the fact that reason is not limited to the method of science, and that in giving undivided honor to the latter we are leaving in neglect another and supremely important range of the thinking process. To give up reliance upon reason before examining the nature and possibilities of such other aspects of its make-up would be yielding to mere impulse, and stopping far short of our possibilities. We need constructive ways of viewing this distinction between the method of exact science and the method of thinking in its other phases. Through the pursuit of such study and analyses we may possibly move on into more adequate patterns.

There is one way of viewing the distinction between the method of exact science and the method in other phases of thinking, which is proving fruitful to the author. This consists in noting how they differently seek to avoid the detrimental effect of bias, or of the "wishful" factor in thinking.

Thinking man has come rightfully to be suspicious of bias. It works no end of havoc, making of the reflective powers mere abettors of unreasonableness. Not only is such thinking a waste of time and energy, but it is a subtle and effective entrencher of damaging conduct. A young man of the South, with a college education, endeavored recently to prove by the Bible that the negro has no soul. The research scholars of a nation will find many and ponderous reasons for

justifying the participation of that nation in aggressive, armed attack on other nations. In strange ways, even the exact scientists at times find their results confirming their preferences, try as they will to avoid such influence of wish. How seldom in human dealing is the real issue stated when one person or party seeks to establish its interests through a majority assent. In brief, those who know our thinking best are most ready to grant that it usually goes wrong, and that its error is more often than not due to the failure adequately to cope with the subtle power of bias. They justly insist that the improvement of thinking is in large measure equivalent to the control of the dominant personal wish within the process.

In past efforts to achieve control over bias, two fundamentally differing types of procedure have appeared. One of them is seen to-day at its best in exact science; the other in that field of thinking which ranges from common sense in everyday affairs to the wisdom of a philosophic statesmanship. Briefly, the difference is that science seeks to avoid the detrimental effect of wish, desire, preference, etc., by eliminating them from the process altogether, while this other range of thinking seeks to avoid such bias through recognizing and admitting every wish, desire, or preference on its own merits, letting it interplay with the rest toward a resultant which best integrates the value-claims of all. In short, science diminishes the number and influence of desires while the wider range of thought increases them, and each seeks thereby to avoid the detriment of bias.

The scientist asks others to establish the same experiment, to compute results from the same original data, or even to explore the same field for more and different data. In thus increasing the number of persons who may come to accord as to findings, he decreases the possibility of error from any bias of his own. Exact science seeks universal agreement among observers in the field of observable phenomena, aiming thereby to discover uniformities of occurrence on the basis of which we may safely predict and more surely control. In such a process, the only human preference which can be admitted without disqualifying the whole undertaking is the preference for quantitative precision and accuracy. Whether or not the relationship (usually cause and effect) does exist, is all that he can permit himself to be concerned about. Any other concern whatever, if admitted to the process, is bound to warp his whole investigation, from

the observation of data to the judging of the results when he puts his hypotheses to a test. His guiding star is dispassioned accuracy. What will come of his findings, of him for making them, or of the human race if it reshapes its thought and life to harmonize with them, is not his concern *qua* scientist, else he ceases to be a scientist. As the result sought is an impersonal one, so the process of coming to these results must be impersonal.

But human life is personal and, correspondingly, the larger proportion of human thinking is personal. When, therefore, the war on bias is undertaken it must make its largest conquests in this personal, wishful, desireful, preferring, liking-disliking range of experience. The problem here is not how to eliminate desires, but to discover how they may interact for the freeing of the most energy in further conduct. As in the case of science, other individuals are called upon, not, however, to get rid of desires, but to multiply them, to secure a larger field in which the interplay occurs, and to move thus toward findings which will serve more human values, releasing the energy of the group, and of the individual in the group. In other words, bias is overcome by multiplying and thus reweighting the number of desires and preferences which enter into the process of the thinking. It is not the elimination of the wishful factor that makes for good results in such thinking. It is rather the number of such factors at work and the manner of their relative weighting in the total act of thought. The guiding star here is not merely accuracy, as with exact science. It is adequacy in the *milieu* of human values. The thinker's concern here is not solely with whether or not a relationship exists, but with all of the pertinent desires and preferences of any and every person who may be involved.

No one could reasonably maintain that these two ranges of thought are the same in method, but it is true that they are mutually dependent and that neither one ever appears entirely exclusive of the other in any one person's thinking. The distinction, however, must be insisted upon for the reason that the two are being confused with each other in modern thinking, much to our distraction and misguidance. To this we shall return, after having seen the two kinds of thinking in illustrative cases, where it will appear that they are distinctly different in method, and yet mutually dependent.

A convenient illustration of the range of thought where desire and

preference are admitted for their full worth is to be found in an article written by E. L. Thorndike twelve years ago on the subject, "Education for Initiative and Originality." [3] In a major way this author was concerned with the problem of research in graduate schools of education, particularly in Teachers College. Since research involves fundamentally the traits of initiative and originality, it would be necessary to reëxamine these two concepts in order to make any far-reaching revision of the notion of research. This Professor Thorndike did, and he did it so effectively that the article has been one of the most popular in educational literature during the twelve years since it was written. Near the beginning the author states that there is not enough scientific material to enable the psychologist to make a scientific statement with regard to initiative and originality, and yet he did have something very important to say with regard to them. In brief, he recommends the discarding of some prevalent, narrow, and negative meanings which had come to be attached to these words, and in their place he advocates the establishment of positive, thoroughgoing, and expansive meanings. The success with which he thus reclothes the old terms in new values may be sensed by one who reads the article and feels a new courage, a releasing of his powers for further constructive work. And evidently many people in education have caught some such new personal grasp on research in education as the result of reading this article. It has been quoted, referred to more than almost any other article in the field in that period of time, and within the past year has been republished in the magazine which published it originally.[4]

It has been indicated that the thinking in this article consisted in the remolding of patterns of thought with regard to an important phase of life. The author is not excluding likes and dislikes, desires, wishes, and preferences, but is rather allowing them to interplay upon each other until they fuse or integrate into a resultant which tends to do service well proportioned to their various demands. In the realm of thought this is a work of art. The artist achieves that which best serves the values which govern his own life, and as he is a social being, a product of the same age as his fellow students, he finds that the realignment of values, desires, preferences which best integrates him and releases his energies for further conquest is effective in the same manner with hundreds of his readers.

[3] *Teachers College Record*, 17:405-416 (November, 1916).
[4] *Teachers College Record*, 29:89-100 (November, 1927).

When the product of thinking can be so far-reaching in its effect as in the case just cited, it must be important to look into the methods by which such products are attained. This type of thinking quite evidently needs to be done. Moreover, it can not be done once for all, for change is constantly going on in the values which move people to effectiveness, and each new generation will thus require a restatement in terms which are appropriate to its own cultural background. Needless to say, it is a type of thinking which can be done well or ill. Therefore a study of its method is incumbent upon us, to make it a better, rather than a worse, process. To limit the study of method to the field of exact science is therefore to exclude from study one of the most important phases in the thought upon which we must rely for guidance.

Another illustration of thinking of the type where desire and preference are given freedom of interplay may be found by any one who will study the process by which he arrives at a decision. The need for decision is created by the individual's coming to some block in the ongoing process of his conduct. He must stop to deliberate which way he shall go; and what, among the possible things, he shall do. Into the scene of this deliberation come the impulses of suggestion, each impulse a potential decision, each suggestion a candidate for final acceptance. The final decision here, as in the case of the repatterning of thought described above, is some integration of these various impulses and suggestions. It involves a resultant of all the likes and dislikes, wishes, desires, interests, and preferences which have entered into the process of deliberation. Certainly, there are good and poor ways of deliberating toward a decision, and so long as there are good and poor ways and the possibility of better ways, we have no choice but to study the method with a view to the realization of such betterment.

In order to see clearly the place of the scientific method, that which excludes preference and desire from its process, let us suppose that a person has a decision to make with regard to a high school curriculum. Into the arena where the variety of impulses interplay, there comes one to the effect that a certain amount of mathematics should be taught, on the ground that it is a subject especially good for developing the reasoning powers in young people. Clearly the weight which this suggestion should have in the total deliberation toward a decision would

depend upon whether or not it is true that the study of mathematics does lead to a transfer of reasoning power to other phases of life. Once the question is raised in the mind of the individual he cannot go on comfortably making decisions as though it were true, but rather he must do something to find out definitely just what does happen. So he takes aside this problem, out of the arena of the interplay of value and desire, and puts on a controlled experiment under the strictest laboratory rules, guided by the most effective instruments of accuracy, to discover just what does follow when young people study mathematics. In short, he is after the exact relationship which exists between the study of this subject and the utilizing of the same mental functions in other phases of his experience. This is what the method of exact science is after, usually the strict relation of cause and effect, or condition and result. He must, if he is a thoroughgoing scientist, eliminate from this process all preference or wish as to what shall be done with the problem or even as to what conclusion his experiments will justify. His only preference is for consistent accuracy in observation and finding.

In this illustration it becomes clear that the method of deliberation toward a decision and the method of exact science are interdependent, but that they proceed by widely different methods. The former moves toward a product which results from the interplay of all pertinent wishes and desires, one which will release him for further action in the direction which will best serve his frankly admitted values. The latter moves rigidly toward a conclusion which is ruined if colored by any of these personal wishes, preferences, and values.

The difference between these two methods is thrown into bold relief when their respective tests of thinking are compared. The scientific method uses the test of *accuracy*, to the practical exclusion of any other consideration. Does the relationship exist? Is the finding accurate beyond question? This method stops with *accuracy* of result. The other method of thought cannot be tested primarily by the standard of accuracy. It asks, rather, Does the finding do just service to the desires and preferences among these impulsive tendencies and thus release the individual for further and better oriented conduct? This method uses all the accuracies it can get and bids for more, but the test finally is not accuracy. It is something which may well be expressed by the term *adequacy*. There are two things which give rise

to the demand for scientific accuracy; first, the need for correction of the suggestions that come into the arena of deliberation, as we have seen above; and second, the need of a basis for the establishment of further accuracies, as in the development of the laws of chemistry and physics. Thus the only place in which this accurate finding gives release directly for further action is in the line of the quest for further accuracies in the same field. When it is reincorporated into the process of deliberation which forms purposes and decisions, it takes its place again as an impulsive sugestion and contributes to the adequacy of the final belief, end, or decision only as a preference amidst all the other interacting preferences which move toward a releasing integration of the whole desireful being through an act of thought. The first question about this thinking is not whether it is accurate, but, rather, whether it is adequate thus to integrate human values and release human energy in conduct.

With the distinction thus cited and illustrated, we may better see why it should be insisted upon. In brief, our failure clearly to note this distinction has misled us into giving too exclusive honor to the one method, the scientific, and thus to bar from consideration the study and improvement of the other method, upon the excellence of which depends the adequacy of our use of reason in human life. A few of the ways in which this error appears will repay attention.

In those institutions which are the exponents of the best in thought, our universities and colleges, honor is given to the scientific method and to the method of the literary artist. Between these two extremes honor is distributed thinly and at rare points. A dissertation must be fortified by the demonstrations of science, or else it must be in the realm of accuracies of knowledge about the literature of the past and present. Only once in a great while is a truly creative work honored as a dissertation even in the field of literature. Until quite recently, the deliberate endeavor of the speculative thinker has been taboo in our circles of research in higher education. The quest of more elaborate analyses and more adequate restatements of the general and particular patterns of our speculative normative thinking has been neither encouraged, directed, nor honored. This is, in no small measure, due to the failure to distinguish the method of exact science from that of this other range of thought, and to our consequent proneness to fix our faith in science as the panacea method of thought.

There is a monumental resistance in our day to admitting that the scientific method is not finally capable of taking the place of any other method in serious thought. Karl Pearson in his *Grammar of Science* is one of the outstanding spokesmen and pace-setters for those who see the method of exact science making its gradual and sure way into all phases of thought as the eventual substitute for any other method that may have been prevailing there. And Pearson's view is the unquestioned view of the vast majority of research people in our institutions of higher learning to-day. These exponents of science do not usually think to question the all-inclusiveness of its method. They rather bemoan the reluctance of some fields of subject matter to yield to it, and keep plodding on to conquest. Such a one-sided view cannot but be disastrous in effect, if the difference which we have cited has been correctly observed. A large range of serious and indispensable thought is thereby ruled unworthy of examination and development, destined presumably to be left in the grip of unavoidable error until science can make its way to the rescue. This, indeed, has been our situation. How few, scattered, and unhonored are the attempts today to examine the "logic of reflective thought" with a view to improving the methods of research in these wider ranges! And yet what could we more critically need than just such endeavor?

There is little question that our civilization has a gaping void which can be filled only by the reclaiming of reflection to an honored place in the realm of desire, value, wish, and preference. The "material" culture is outrunning the more general "adaptive" culture with its precious content of human values.[5] Technologically and scientifically we are forging ahead, our best brains absorbed in the conquest and redirection of natural resources. In appreciation, on the other hand, in "spiritual" values, and in the well-rounded poise of human lives, we are lagging far behind, with only here and there an isolated attempt to see life whole and to see our technological controls in their proper interdependence with the larger field of values. And worse still, we are so engrossed with our scientific method, so exclusively devoted to it, that the method which gives play to our human values is not regarded as even worthy of study.

Another fruit of clearly seeing the distinction between these two methods will be the new place thereby opened up for coöperative

[5] Ogburn, W. F. *Social Change.* Huebsch, 1922.

discussion and inquiry. Where human values and preferences are at stake the method of conference in one form or another is the only possible route to a working basis in common appreciation and belief. Group thinking is coming under study to-day in a new way. Some groups deliberately seek to achieve those bases of belief and action which will most adequately serve the values of all the individuals represented. The method is discussion. The process is "interpenetration" of minds. The end toward which they move is an integration of desires which will best release the energies of all for further expansion and achievement. Books and reports of method[6] are being written to pass on the profits of the experiences of these groups to a wider and wider field. The emphasis of this whole effort is upon the necessity and the possibility of the mutual modification of preferences and desires as earnest and honest individuals make known to each other what they do desire and prefer. The method is set in an atmosphere which maintains goodwill in the midst of the most frankly expressed differences of preference, and the ultimate goal is still a goodwill with a group decision that represents all of the people involved, with values changed, it may be, but with integrity still maintained and individuality as pronounced as ever. It is not a valid condemnation of this procedure to say that it is not scientific. We see now that there is another method of thought which is not the scientific and yet which is to be admitted to a place of dignity and honor. The improvement of group thinking will require the study of this method and the ways and means of making it more effective, both in the individual and in the group.

We are well aware of the great strides which have been made in the analysis of the scientific method, and in the promotion of the means whereby it is effectively taught. Has anything been done to date to achieve a similar improvement in the method of the wider range of thought? We shall have to say that there has been only a little done, and this is another reason for insisting that the distinction between these methods shall become clear. Something must be done if we are going to preserve a balance and keep our thinking in its highest reaches from utterly misleading us as to the channels in which our energies should go.

[6] Elliott, H. S. *The Why and How of Group Discussion.* Association Press, 1924. Elliott, H. S., *The Process of Group Thinking.* Association Press, 1928. *Creative Discussion. The Inquiry,* 1926. Follett, M. P., *The New State.* Longmans, *Green* and Co., 1918.

In the history of thought the development of formal logic has been the only method applied to thinking in these wider ranges. Needless to say, the method of formal logic has been given up as an emphasis in our educational procedures. What has come to take its place? We have thought that the scientific method was the indicated substitute, but this, as we have seen, has not proven adequate. The substitute for formal logic must come more definitely within the range of desireful thinking. The most encouraging steps which have been taken in this direction are to be found in the reformulation of logical principles. The "dynamic logic" [7] is coming to take the place of formal logic. Even where formal logic is still taught, it is coming increasingly to be conceived from a more dynamic standpoint. There is pressing need that efforts shall be made to teach thinking fundamentally in the realm where the formal logic is being supplanted by conceptions which are more consistent with the dynamic bases of conduct. This brings us to the field which to-day is probably contributing most to the reconstruction of our conception of the thinking process, that is, to the study of psychology from a fundamental and adjustive standpoint.

The formal logic analyzed, from a strictly intellectual standpoint, some of the errors, for instance, into which our reasoning falls. But thus to state them formally seems to be of relatively little practical value. The thing that is important is why these errors occur. Here it is that the psychology of adjustment is coming to be the real psychology of thought. Thinking is an affair of differing and conflicting impulses, of desires and preferences at interplay with one another. The outcome of thought is a formulation which in some fashion takes care of these various dynamic elements. Good thinking and poor thinking in this field are matters of integration in greater or less degrees of adequacy. The dynamic logic is essentially a psychological study of thought. One who studies the dynamic logic is in the same act examining the bases of his own conduct and seeking guides which will make his thinking more adequate in the affairs of his everyday life. The tenets of formal logic and the strict discipline of scientific method are suggestive to one who thus studies the dynamic character of his thinking. But neither the formal logic nor the scientific method can take the place of this more vital study. There will of course be formulations of guides to thinking, statements which prove effective

[7] Bogoslovsky, B. *Technique of Controversy*, 1928. Dewey, John. *How We Think*, Heath, 1910. McClure, M. T. *Introduction to the Logic of Reflection*, Holt, 1925.

in the fostering of adequacies and in the avoiding of error and inadequacy. Such formal statements, however, need not be the same for all people. Some few may become more or less standardized, but in the study of thought as a dynamic process the formal statements of a new logic must always be subordinate to the study of the process itself. From the standpoint of the improvement of one's thinking in the field of the interplay of desires and preferences, it is more important for him, for instance, to be able to detect within himself the subtleties of compensatory behavior as it becomes evident in rationalization and "blind spots," than for him to know any or all of the principles of a formal logic. The examination of thinking as thus affectively conditioned would mean no less than a thoroughgoing self-examination of the individual or the group which is undertaking the study. Nothing short of such a process can be of any far-reaching worth in the quest of better thinking.

There is always a danger in separating different phases of our mental processes for the purposes of study. One such danger here is that we shall come to think of these two ranges of thought as being independent of each other. Nothing could be farther from the truth. The deliberative process in the realm of desire and preference awaits constantly the increase of such accurate knowledge as the scientific method may produce. On the other hand, science is merely a method whereby, as we have seen, some item is taken aside from the vital processes of deliberation toward decision and belief in order to test its accuracy. This item was taken aside from the process and should be reincorporated in the process in order to become truly functional again in life. The deliberative process in the realm of desires is thus the matrix from which spring the ever new and varied needs for the quest of scientific accuracy. The two processes are mutually dependent. Rather, therefore, than discourage or discredit the pursuit of exact science, the distinction here made can be rightly interpreted only as calling for an ever increasing conquest of accuracies.

The disquieting condition which makes necessary the insistence upon the distinction between the two methods is that we have been trying to crowd the whole of vital human thought through the cold and cramped channels of the method of exact science. Human thought, however, is restless at the attempt. Thus the discontent today with the prevalence of exclusive devotion to the scientific method.

We are coming to realize that human thought eventually forges out its beliefs and decisions, not in the coolers of exact science, but in the crucible of vital, interacting human desires and preferences. The method of this forging process can be studied and improved.

AN EVALUATION OF THE SINGLE SALARY SCHEDULE

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SINCE its inception about 1918 the single salary schedule idea has had a most remarkable growth. Not only has it been advocated by educators as the most practical way of rewarding training and experience, but it has been accepted widely by men on the field on account of its simplicity and ease of administration. At the present time it is in operation in 153 cities in various parts of the United States.

The fundamental principle of the single salary schedule is that teachers should be paid on the basis of training and experience rather than according to type of position held. This is in contrast to the principles embodied in the older schedules which were based upon the theory that the more mature and advanced the pupil, the more difficult the task of teaching, and therefore the greater the need for trained teachers. Hence high school teachers were paid more than elementary teachers because it was thought that their task was more difficult and their need for training greater. This discrimination in favor of the upper grades frequently led ambitious elementary teachers to desert the field in which they had been trained and for which they were best fitted, to secure the additional remuneration and recognition given high school teachers.

Different interpretations have been given to the term single salary schedule. In the first place it has been used to designate the system whereby all teachers with the same qualifications are given the same remuneration regardless of sex or position. A second interpretation is exactly like the foregoing except that men teachers and women teachers are placed on a different scale. This second interpretation, however, can scarcely be considered as effecting a single salary schedule, but rather as constituting two separate single salary schedules in the same system.

The most obvious advantages of the single salary schedule are:

(1) *Ease of administration*

Since amount of training and experience are the only two factors commonly used to determine salary, it is a simple matter to place teachers on the schedule.

(2) *Impartiality*

The objectivity of the single salary schedule not only makes it easy to administer but greatly diminishes any tendency to show favoritism, thus materially lessening professional jealousy and raising the morale of the whole staff.

(3) *Encouragement offered teachers to teach in positions for which they are best fitted*

The essence of the single salary schedule is that it does not discriminate between teaching positions. This permits the assignment of every teacher to the kind of work which she can best do, and allows for subsequent adjustment of position, since salary is not a desideratum.

(4) *Incentive to further training*

Since amount of training is a major determinant of salary, every encouragement is offered to the teacher to continue her training. The great army of public school teachers flocking to universities for summer school work within the last few years is doubtless due in part to the widespread adoption of this type of schedule.

The single salary schedule has been acclaimed by educators everywhere as a long step forward in the compensation of teachers. As it has been applied on the field, however, it leaves much to be desired. In the first place, the very ease of administration which recommended it to practical men has proved a serious weakness. Because amount of training has been so easy to measure, superintendents and principals have been content to use this standard only, without investigating the type and quality of preparation as well.

For example, a kindergarten teacher specifically trained for her work in a three-year normal school continues her professional training by attending a university for two years. If she has selected her courses wisely in the university she should be, from the standpoint of

training, exceptionally well prepared for her position. Contrast this teacher with a girl who graduates from a strictly academic college and follows this with one year of professional study. From the standpoint of knowledge of teaching methods, psychology, and a general background in the field of education the normal school graduate is much better prepared. In the administration of the single salary schedule, however, both of these teachers would be placed at the same point on the scale and would travel toward the maximum at the same rate of speed.

It is often assumed that the state certification requirements automatically sift out prospective teachers, giving only those who have been adequately trained the official stamp of approval. Thus a certified elementary teacher is thought to have had the prescribed amount of psychology, methods, etc., and the high school teacher an appropriate background of subject matter. Unfortunately, most state requirements for certification are lamentably low and this desirable state of affairs is far from obtaining generally. No community can afford to rely entirely upon the state to provide only well-trained teachers. In fact, many cities find it advantageous to have their own certification machinery.

University professors cannot fail to observe the large number of teachers pursuing courses at best only remotely connected with the work they are doing in their own community. While any teacher, regardless of position, can profitably take courses which will enrich her educational background, nevertheless, for a fifth grade teacher to specialize in college administration by way of increasing her efficiency in her present position is scarcely defensible. It is every teacher's privilege to change her field of interest, yet to expect the local school board to reward her for so doing is as unreasonable as to propose that teachers studying law or medicine at night school be credited on the salary schedule as having had additional training.

This situation can be largely controlled through close supervision on the part of the superintendent of the courses which teachers propose to take. This does not mean rigid prescription of courses of study for teachers. It does mean, however, that the summer school program of each teacher should receive careful consideration, and that she should be advised as to types of courses which will increase her efficiency. To do this intelligently the superintendent must be

familiar both with the courses offered in colleges and universities and with the needs and weaknesses of individual teachers. In no other way can the board of education be assured that additional training will result in improved teaching.

Probably the most glaring weakness of the single salary schedule as commonly administered is the failure to reward merit. All teachers with the same training and experience receive the same salary regardless of their achievement in the classroom. The excuse most frequently offered for this omission is that no adequate measuring rod for efficiency has yet been developed. So it was argued that since training and experience contribute directly to skill in the classroom these two tangible measures might very well be substituted for their more intangible objective. This arrangement would be all well and good if teaching skill were directly proportional to amount of training and experience, but every common-sense educator knows that this is far from true.

Although it is true that at present efficiency cannot be treated as objectively as training and experience, nevertheless superintendents everywhere are making *some* estimate of skill when they discriminate between teachers who are good enough to be retained and those so poor as to warrant dismissal; it should be no more difficult to distinguish between excellent teachers and those who are only fair. Even this discrimination is being made to some extent when teachers are kept for three years, only to be dismissed in order to avoid putting them "on tenure." In every school system of any size there are a few teachers who stand head and shoulders above their fellows. Every live superintendent discovers these teachers even though his supervisory corps is small. It would not be a very difficult matter to single out this group, at least, for special recognition.

According to a recent study of rating systems,[1] over 40 per cent of the cities in the United States definitely rate teachers on the quality of service rendered. Only 10 per cent of the cities employing rating schemes, however, use them as a basis for differentiation in salary. Considerable opposition by teachers is often encountered when a schedule based in part on efficiency ratings is proposed. Some teachers feel that such ratings often consist of snap judgments by supervisors who have not spent sufficient time in the classroom to secure

[1] "Practices Affecting Teaching Personnel." *National Education Association Bulletin*, Vol. VI, No. 4, p. 239 (Sept., 1928).

a representative picture of the teacher's work. This criticism is entirely legitimate and unfortunately is true in so many instances as to discredit teacher-rating in many localities. When the scoring is done carefully and with good judgment, when it covers a sufficient number of points, and especially when the average of the ratings of two or three supervisors is used, this type of objection should be entirely removed.

Another type of opposition comes from teachers who fear that the introduction of a salary schedule based on efficiency will work to the disadvantage of themselves or their friends. This group of individuals will raise objections to any and every plan of rating, for they are secretly afraid that close scrutiny will reveal certain faults and failures. Opposition of this character should serve as a goad to the administration, for it shows only too clearly that some of the teachers have settled into a rut of mediocre work and that it is high time a stimulus was provided which will urge all teachers to do their best.

Nothing is more stimulating to the ambitious teacher than the knowledge that extra effort will bring her special recognition and additional financial reward. As the single salary schedule is usually applied, however, fair, good and excellent teachers are treated alike; all receive the same number of increments, all receive the same size increment, and all look forward to the same maximum. This leveling process is extremely unfortunate for the school system, since there is no incentive for the capable teacher to do better than average work. This deadly uniformity doubtless explains why many competent teachers leave the profession for other lines of work. The loss of excellent teachers should be considered as great a calamity as the selection or retention of poor ones.

There are several plans of rewarding merit. Probably the simplest is the one whereby two halts are made in the salary schedule. According to this plan all teachers with the same qualifications advance at the same rate up to the first halt, which might well come at the end of the third year. Only good and excellent teachers pass the first halt. The second halt comes several years later and is only passed by the excellent teachers. Such a system calls for no change in the salary schedule and is very easy to administer.

A much more elaborate method of rewarding merit, and probably

the most comprehensive, is recommended by Charles Russell in *The Improvement of the Elementary Teacher in Service.*[2] He advocates that teachers be classified into three or more groups according to skill in their own grade or subject; namely novice, journeyman, graduate, and master teacher, with a corresponding differentiation in salary. The virtue of this plan is that it provides extra compensation for outstanding work and affords recognition through the hierarchy of titles.

This is in harmony with the type of salary schedule in vogue in many of our colleges and universities, which provides for several ranks; namely instructor, assistant professor, associate professor, and professor. Promotion to each successive rank is based upon achievement and carries with it a stipulated salary. Provision is also made for annual increments varying in amount with the level of the position. Some men are never promoted beyond the rank of assistant professor, and others never pass beyond the level of associate professor, although the rank of full professor is usually considered within the reach of a reasonably capable and ambitious man.

The single salary schedule, then, should not be regarded as an algebraic formula where the superintendent substitutes years of training for "*x*" and years of experience for "*y*," multiplies by the number of dollars his board of education has decided those attributes are worth, and gets as his result the salary of the teacher in question. Such an attitude emphasizes the quantitative phase of preparation and experience, because it is definite and tangible, to the exclusion of the qualitative factor, which is just as important in spite of the difficulty of measurement. Further experiment and research will undoubtedly make the task of teacher-rating more objective. The time may even come when the compensation of teachers will justifiably be a matter of simple computation; in that case, however, the formula will have a third term, "*z*," for efficiency.

[2] Russell, Charles. *The Improvement of the Elementary Teacher in Service.* Contributions to Education No. 128, Bureau of Publications, Teachers College, Columbia University.

SANITARY STANDARDS FOR HOME LAUNDERING

By L. RAY BALDERSTON, EVA WILSON and BESSIE HARRIS

COMMERCIAL laundry processes are to-day much more definitely standardized than home procedures with regard to temperature and time of washing periods, the use of soaps and supplies, and methods of drying and ironing textiles. Formerly, little of the information underlying the important developments in the commercial processes was available to the housewife for her guidance in problems of home laundry. These facts, together with the improved equipment of to-day, such as mechanical washing machines and standardized supplies like soaps and blues, would make housework more interesting and lessen the drudgery. We are now, fortunately, able to apply to the home some of the discoveries and processes which have proved successful in commercial laundering.

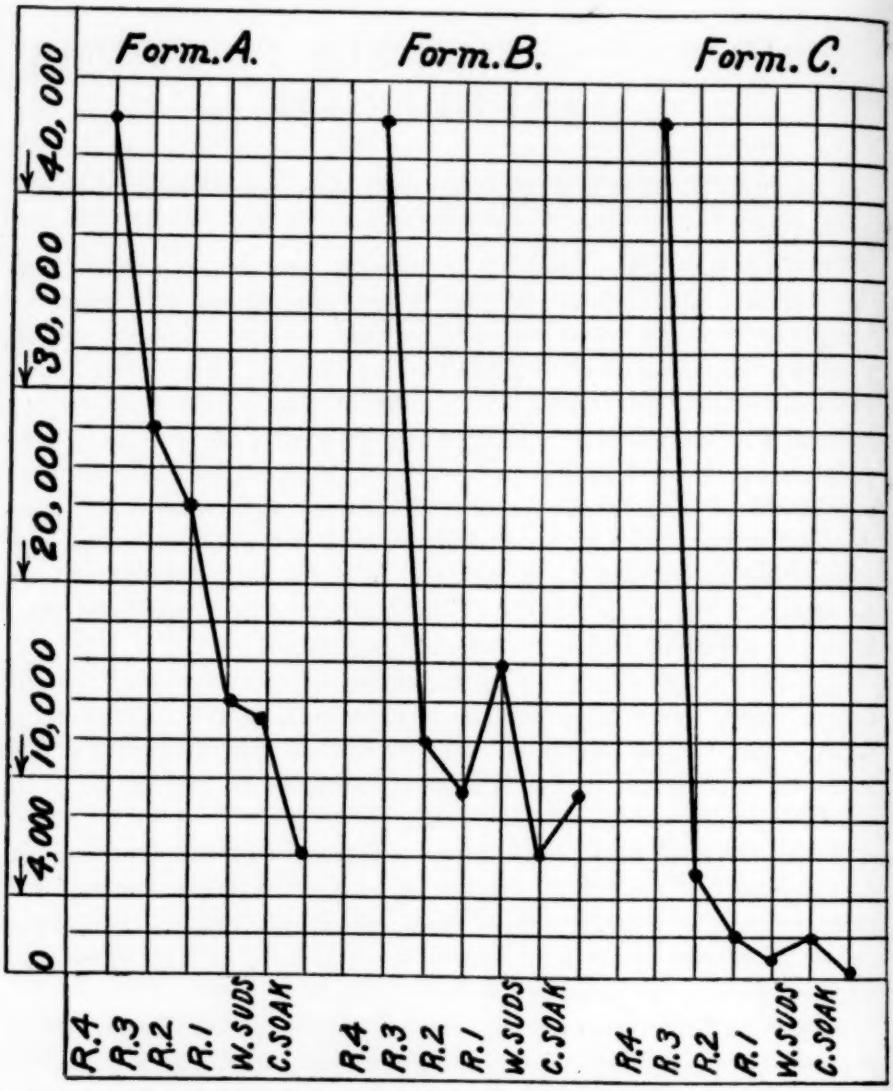
In order to give this aid intelligently, we must consider the difficulties which every housewife must meet with in the regular family wash. Let us ask ourselves what some of the housewife's problems are in relation to the laundering process as carried on in the electric washing machine in the home.

The household problems at present include (1) the determination of the load for the electric washer; (2) a satisfactory "break" solution; (3) the number, length of time, and temperature of the various cleansing processes—the cold soak, the hot suds, and the rinses; and (4) a standard for judging the final product.

As many of the terms used in this study, such as "load" and "break," are more or less technical ones connected with the laundry trade their definitions are given as follows.

1. *Load.* The load of a machine is approximately that amount of clothes, standardized by weight rather than count, which when wet allows the empty space of the clothes container to be about half of the whole machine. This space permits freedom of action and hence makes better cleansing possible.

2. *Break.* Break, as used in this study, means modified soda solution, added as an aid in softening water and loosening dirt.



Curves showing the relative rate of bacterial elimination with the three washing formulas. Note the irregularity of the counts in B, the slow continuous drop in A, and the more rapid and more complete elimination of bacteria in C. (These curves were made by determining the proportional decrease throughout each of the six processes, and reconstructing a curve based on the average initial count of the cold soak stage.)

3. *Cleansing processes*
   a. *Cold soak*—a short soaking period for the clothes, in cold or lukewarm water, with the machine in action. This allows the textile to become saturated with water, loosens some of the soil, and aids in the removal of stains.
   b. *Warm suds*—the washing process which is the mechanical and chemical removing of the dirt.
   c. *Hot rinse*—the mechanical rinsing of the clothes in hot water, with the machine in action.
   d. *Cold rinse*—the mechanical rinsing of the clothes in cold water, with the machine in action.

4. *Standards for judging the washing process*
   a. By visible cleanliness.
   b. By touch—absence of a "slippery" feel.
   c. By odor—absence of a soap smell.
   d. Through absence of alkalinity, as shown by testing with phenolphthalein.
   e. By removal of bacteria, as shown by inoculating culture media with samples of the wash waters. (See photographs in this article.)

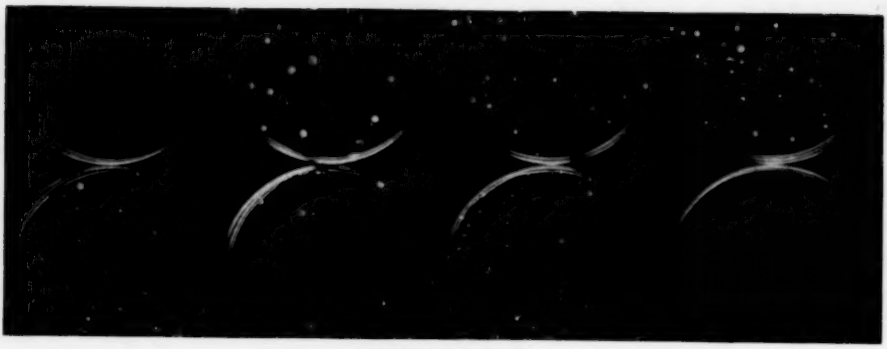
The housewife can apply all the above standards to her home process, except the last. Our experiments show, however, that if a good washing rule is followed and favorable results obtained according to points *a, b, c,* and *d* of the above list, safety from a bacterial point may be assured.

The present study was undertaken to establish a good washing process under the following conditions or situations:

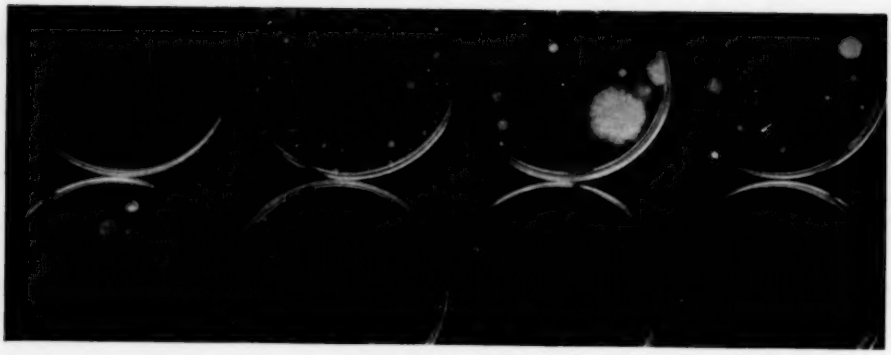
1. Washing machines of either of two types, (*a*) pressure and suction, or "vacuum cup" and (*b*) the reversing cylinder or "rotary," were used. Both types are well known and much used. These machines had earlier been tested in the laboratory and a standard load established for each type.

2. Clothes from families composed entirely of adults and also from families with children were used in the study. These provided representative types of family wash with a typical range of soil on cotton and linen fabric. The clothes were inoculated with *Bacillus coli* as the type of organism which would be commonly found in the soil on clothing, under conditions favorable to the presence of some pathogenic organisms, and which would, therefore, serve as an indi cator of the sanitary conditions obtained in the washing process.

FORMULA A



FORMULA B



FORMULA C

Photographs showing part of each agar plate in three complete series of wash water tests, a fairly typical series for A, B, and C. Note the rapid and almost complete reduction of bacteria in Formula C. Larger colonies, as in the third plate in the C series, often occur when the number is greatly reduced.

1	2	3	4
Tap Water	Cold Soak	Warm Soda	Hot Rinse
5	6	7	8
Hot Rinse	Hot Rinse	Cold Rinse Blue	Tap Water

Nos. 1 and 8 in each series were made from the running tap water as controls; from Nos. 2 to 7 the waters are cold soak, warm suds, and rinses 1 to 4, in order.

BACTERIAL RANGE OF CLOTHING USED

Content of Cold Soak Water, per c. c.

Formula A (17 Washes)	Formula B (12 Washes)	Formula C (13 Washes)
550	38,000	2,500
4,700	67,000	1,000
12,500	26,000	19,600
9,900	15,000	298,700
10,070	23,000	8,900
12,400	14,000	14,850
5,950	125,550	5,000
167,500	27,500	2,100
8,800	11,500	700
8,500	6,420	13,000
810	26,200	72,400
133,000		108,800
790		
8,900		
6,100		
318,000		

3. A definite basic washing rule or formula was used throughout the tests. This basic rule always included the following four processes:

a. Cold soak
b. Warm suds
c. Three rinses, and
d. Cold rinse with blue.

4. The temperature of water used during the complete process was the range of temperature of faucet water which would be available in an apartment house or home supplied by boiler system or hot water heater. In addition, several tests were made with water heated in a wash boiler.

5. The soap used throughout the test was a mild laundry soap in chip form, combined with modified soda to form a soap solution.[1]

DETAILED STUDY OF THE WASHING TESTS

1. *Establishing a standard load for each machine used.* Electric washing machines of the two types previously described were used. Starting with the manufacturers' claims, a standard load was estab-

[1] See Balderston, L. R. *Laundering: Home-Institution*, p. 102.

lished for each machine by a series of laboratory experiments. The clothes were weighed dry and were sorted to include a typical range of family laundry which could be washed in an electric washer without undue strain on the machine or unreasonable wear on the textile.

2. *Establishing a washing rule or formula.* Tests were made with a family load to establish a rule for washing a given weight of cotton and linen material in an electric washer in a reasonable length of time, with definite quantities of laundry supplies and a given volume of water, at a definite range of temperature obtainable under household conditions, and with a minimum amount of fatigue to the worker.

These tests established a rule for washing a family load which would give a neutral reaction to phenolphthalein in the last rinse. The textile had a good appearance, was pleasing to the touch (that is, was not sticky nor slippery), gave no evidence of odor and no indication of unnecessary strain.

The following rules for break, soap, and blue as established in these tests were used as a basis for the sanitary study recorded later in this paper.

1. *Break.* A break solution was made by dissolving 1 pound of modified soda in five quarts of water and one cup of this solution to ten gallons of water was used during the soaking period with the machine in action.[2]

2. *Soap.* A soap solution was made by adding one pound of mild soap chips to five gallons of water and allowing the mixture to heat until all the soap was dissolved. One pound of modified soda was added to the mixture after it had been allowed to cool slightly.

One quart of the solution was added to a load of clothes as a starter during the hot suds process. Known amounts of the solution were added to the water until a suds was formed which would hold for five minutes when exposed to the air.[3]

3. *Blue.* A solution of non-acid aniline blue was used during the tests.[4]

4. *Alkalinity test.* Phenolphthalein was used as an indicator of the alkalinity of the load. A test was made during the last rinse, before bluing was added to the load, to determine the reaction of the rinse

[2] See Balderston, *op. cit.*, p. 14. [3] *Ibid.*, p. 103. [4] *Ibid.*, p. 111.

water. One drop of alcoholic phenolphthalein was added to a half test-tube of water sample from the washing machine. A pink color indicated the presence of alkali in the water. Absence of color showed that little or no alkali remained in the fabric.

5. *Washing processes.* The washing processes in our experiments fall, because of variations in time and temperature, into three general formulas or modifications of the basic rule, which consisted of the following:

Cold soak	5 minutes
Warm suds	15-20 minutes
Rinse I—hot tap water	5 minutes
Rinse II—hot tap water	5 minutes
Rinse III—cold tap water	5 minutes
Rinse IV—cold tap water and blue	5 minutes

To meet the variable conditions of time and temperature of the water available in the home, this basic rule was modified into three washing rules, listed as Formulas A, B, and C.

Formula A (constant through 17 tests):

Cold soak—cold tap water	5 minutes
Warm suds	15-20 minutes
Rinse I—hot tap water	5 minutes
Rinse II—hot tap water	5 minutes
Rinse III—hot tap water	5 minutes
Rinse IV—cold tap water and blue	5 minutes

Formula B (constant through 12 tests):

Cold soak and break	5 minutes
Warm suds	15-20 minutes
Rinse I—hot tap water	5 minutes
Rinse II—hot tap water	5 minutes
Rinse III—hot tap water	5 minutes
Rinse IV—cold tap water and blue	5 minutes

Formula C (constant through 13 tests):

Cold soak—lukewarm tap water and break	5 minutes
Warm suds	15-20 minutes
Rinse I—boiling water	10 minutes
Rinse II—hot tap water	5 minutes
Rinse III—cold tap water	5 minutes
Rinse IV—cold tap water and blue	5 minutes

The method of procedure was as follows:

1. The cold and hot faucet water was allowed to run freely for twenty minutes in order to establish a standard water condition and to free the pipes from sediment or organisms.

2. The electric washing machine was washed with hot water to give a standard surface for tests.

3. Clothes were weighed, shaken out to expose surface area, and put into the washing machine.

4. Water was added to the water line in the machine, varying according to the formula: Formula A—cold water; Formula B—lukewarm water; Formula C—lukewarm water.

5. The motor was started and the machine thrown into action.

6. Soda solution was added in Formulas B and C.

7. The cold soak process continued for five minutes.

8. The machine was drained and refilled to water line with water (84°-120°F.).

9. The soap solution was added—1 quart to family load, plus more to the point of a good running suds. The machine was run 15-20 minutes.

10. The machine was drained and refilled with hot water, as follows: Formulas A and B—hot tap water; Formula C—boiling water.

11. Rinse I. Machine in action for Formulas A and B—5 minutes; for Formula C—10 minutes.

12. The machine was drained and refilled with hot tap water.

13. Rinse II. Rinsing period 5 minutes.

14. The machine was drained and refilled: Formulas A and B—hot tap water; Formula C—cold tap water.

15. Rinse III. Rinsing period 5 minutes.

16. The machine was drained and refilled: Formulas A, B, and C—cold tap water.

17. Rinse IV. The water was tested with phenolpthalein before bluing was added. Rinsing period 5 minutes. Blue was added when machine was in action. One tablespoon of aniline blue solution in one quart of cold water, added slowly to the cold rinse, with the machine in action.

18. The machine was drained.

19. The load was extracted.

Tests showing the removal or destruction of organisms were con-

ducted throughout the whole washing process. At the end of each stage, samples of the water were taken and the bacterial content estimated in the usual way of determining the bacterial content of water, milk, etc.

The following procedures were observed in regard to collecting and testing samples of water.

1. Control samples of tap water (10 c.c.) were collected in sterile tubes before and after the laundering process.

2. Samples of wash water (10 c.c.) were collected in sterile tubes from the washing machine after each separate process.

3. Dilutions of these samples were made and plated in agar and allowed to incubate (37°C.) for two days, when the colonies of bacteria which had developed were counted and the bacterial content per c.c. of wash water was calculated. (See photographs in this article.)

A record was made of the temperature of the water at the time of the collection of each sample. Complete temperature records for the three different formulas, A, B, and C, have been collected into table form in the three tables on pages 242 to 244.

BACTERIAL REMOVAL AND DESTRUCTION

What was the effect of the washing formula on the total number of organisms originally present in the load? From the samples collected and plated on agar as described above, we found:

1. Colonies of organisms were present in every cleansing process or stage.

2. Organisms were released from the clothes in the cold soak, as shown by the high bacterial count for the end of that period.

3. The number of organisms decreased in the suds water samples, showing that the bacteria had been eliminated by being killed, flooded away, or both. The per cent of reduction is shown in the tabulation below. The photographs in this article show a typical series of the agar plates made to determine the bacterial count at each stage of the washing process.

	Cold Soak	Hot Suds	Rinse I	Rinse II	Rinse III	Rinse IV
Formula A	65%	70%	85%	90%	90%	95%
Formula B	58	84	89	85	94	93
Formula C	15	90	98	99	98	99

RANGE OF TEMPERATURE—FORMULA A

(Load rendered sanitary by raising temperature through three hot rinses I, II, III. Fahrenheit scale)

Cylinder Type of Washing Machine

Experiment No.	Cold Soak	Warm Suds	Rinse I	Rinse II	Rinse III	Rinse IV	Control Cold Faucet*	Control Hot Faucet*
1	50°	94°	110°	118°	124°		50°	130°
3	40	90	110	115	124		40	128
5	46	100	108	114	122		46	136
7	40	84	106	118	122	86°	40	134
10	80	108	118	120	126	70	41	124
11	46	106	113	120	121	96	57	123
13	73	117	121	122	124	103	53	128
14	46	110	124	130	133		46	124
15	98	120	122	126	128		45	137
37	68	114	128	102	84	76	71	137
Totals	587°	1043°	1160°	1185°	1208°	431°	489°	1301°
Av. Temp. ...	58°	104°	116°	118°	120°	86°	48°	130°

Pressure and Suction Type of Washing Machine

2	50°	95°	116°	124°	127°		50°	130°
4	40	90	110	119	122		40	128
6	41	88	104	114	122		41	122
8	40	94	117	122	124		40	134
9	46	120	124	120	122	86°	46	140
12	46	118	123	124	120	95	57	123
38	78	104	116	117	118	92	72	130
Total	341°	709°	810°	840°	855°	273°	346°	907°
Av. Temp. ...	48°	101°	115°	120°	122°	91°	49°	129°
Av. Temp. for Formula A .	53°	103°	115°	119°	121°	88°	49°	129°

* The cold faucet water temperature is an average of the temperature at the beginning and at the end of each washing experiment.

The hot faucet water temperature is an average of the temperature at the beginning and at the end of each washing experiment.

RANGE OF TEMPERATURE—FORMULA B

(Load rendered sanitary by increasing alkalinity—break—with temperature range as for Formula A. Fahrenheit scale)

Cylinder Type of Washing Machine

Experiment No.	Cold Soak	Warm Suds	Rinse I	Rinse II	Rinse III	Rinse IV	Control	Control
16	95°	124°	122°	126°	125°		59°	132°
18	97	113	121	121	121	95	51	130
19	95	117	120	122	122	97	51	130
20	93	110	117	121			51	122
21	86	102	113	115	117	75	51	120
24	88	104	114	120	121	83	50	131
22	97	112	115	120	124	84	47	131
40	100	110	146	108	80	72	69	126
Totals	751°	892°	968°	953°	810°	506°	429°	1022°
Av. Temp. ...	93°	111°	121°	119°	115°	84°	53°	127°

Pressure and Suction Type of Washing Machine

17	95°	106°	115°	120°	121°	95°	54°	129°
23	90	110	115	124	124	77	47	131
25	97	105	114	114	122	82	50	131
39	100	116	150	108	82	78	69	119
Totals	382°	437°	494°	466°	449°	332°	220°	510°
Av. Temp. ...	95°	109°	123°	116°	112°	83°	55°	127°
Av. Temp. for Formula B .	94°	110°	122°	117°	113°	83°	54°	127°

RANGE OF TEMPERATURE—FORMULA C

(Load rendered sanitary through increasing temperature and time, as in Rinse 1; alkalinity same as in Formula B. Fahrenheit scale)

Cylinder Type of Washing Machine

Experiment No.	Cold Soak	Warm Suds	Rinse I	Rinse II	Rinse III	Rinse IV	Control Cold Faucet	Control Hot Faucet
27	97°	102°	133°	122°	77°	66°	52°	128°
28	88	106	151	135	81	64	52	133
30	101	108	147	151	98	66	51	123
31	82	100	149	124	93	68	57	149
33	96	109	149	135	95	66	57	133
35	91	106	136	126	80	66	55	124
36	86	100	142	122	84	68	55	124
43	112	118	152	119	82	74	71	130
Totals	753°	849°	1159°	1034°	690°	538°	450°	1044°
Av. Temp. ...	94°	106°	144°	129°	86°	67°	56°	130°

Pressure and Suction Type of Washing Machine

26	95°	111°	137°	129°	90°	72°	51°	126°
29	91	113	154	135	84	66	52	131
34	95	113	131	125	86	75	57	133
41	105	109	162	122	89	78	68	130
42	101	110	160	130	103	72	69	131
Totals	487°	556°	744°	641°	452°	363°	297°	651°
Av. Temp. ...	97°	111°	148°	128°	90°	72°	59°	130°
Av. Temp. for Formula C .	96°	109°	146°	129°	88°	70°	58°	130°

4. The number of organisms decreased during Rinse I in all formulas. The per cent of reduction increased with the increase in temperature of the rinse, Formula C showing the highest per cent of reduction.

5. In Rinse II, the per cent reduction of colonies was greater where the higher temperature was sustained for the second rinsing period.

6. In Rinse III, Formula C, the cold water was introduced to cool the clothes ready for the blue. The rinsing process itself helped to clear the fabric of organisms, for there was a high per cent of reduction of colonies in both Formulas B and C.

7. The per cent of reduction of organisms was greater in the washings under Formulas B and C, where the alkalinity of the washing had been increased by the use of a break.

8. After Rinse IV, Formula C gave evidence of the highest per cent of total removal and destruction of organisms, due to the highest temperatures and the prolonged period of exposure (hot rinse) used in C.

EFFECT ON DISEASE ORGANISMS

Were disease organisms removed or eliminated from the washed articles? This question was studied by introducing *Bacillus coli*

PERSISTENCE OF *B. COLI* ON CLOTHING AND IN WASH WATER

Washing Rule	Clothing Samples	Samples of Wash Water
Formula A 12 washes	Disappeared at end of suds water.	Persisted until fourth rinse.
Formula B 12 washes	Disappeared at end of Rinse I.	Persisted through the entire washing process in three washes.
Formula C 12 washes	Disappeared at end of Rinse I.	Disappeared at end of Rinse I.

into the wash and determining the point at which it could no longer be demonstrated to be present. *B. coli* was chosen as it is an organism which would be found under conditions when pathogenic forms are likely to be found in the soil of clothing used by any individual.

Pieces of white stockinette, 2″ x 4″, were inoculated with *B. coli*

and pinned to the garments with sanitary laundry pins. One sample of this cloth was removed from the washer after each process under aseptic conditions, and placed in a jar of sterile water (100 c.c.). The jar of water was thoroughly agitated and a sample of 1 c.c. was added to neutral-red broth and allowed to incubate for two days.

A sample of the water from the washer was collected after each process and 1 c.c. of this water was added to neutral-red broth and incubated for two days. Records were made of this test from 12 washes under each formula. The samples of cloth did not show the presence of *B. coli* after the first rinse. This would indicate that the organism had been loosened from the fabric or killed. In one case, however, the wash water showed the presence of *B. coli* in Formula C through the third rinse. The presence of *B. coli* in three washes under Formula B indicated that the temperature in that water was not great enough for a long enough period to kill them, or that the organisms were so numerous or virulent that further treatment was needed.

In Formula C the organisms were present in the cold soak water of every wash, were decreased in the suds water, and disappeared during the scalding rinse. As the *B. coli* disappeared from the fabric during the first rinsing process, the conclusion might be drawn that the clothing would be free from any pathogenic organism whose resistance to conditions of temperature was similar to *B. coli*. The organism was not eliminated from the wash water, however, until the third rinse in some washes in Formula A, and not during the entire process in some tests in Formula B.

If the freeing of the *B. coli* in the fabric is used as a standard, the clothing may be considered free of ordinary disease germs. If the condition of wash water is used as the medium for judging, Formula C is a very satisfactory method of producing sanitary clothes, and Formula A is effective but without a sufficient margin of safety. If any or all of the garments are to be dried in the sunlight, any of the three formulas would doubtless produce sanitary clothes. If the drying is to be done indoors, Formula B would be questionable, unless high drying temperature were used. (The likelihood of yellowing makes high drying temperature a matter to be considered, however.)

Dr. G. F. White, bacteriologist, U. S. Department of Agriculture, and Professor Samuel C. Prescott, of the Massachusetts Institute of

Technology, in a recent discussion of the effects of temperature in relation to laundry problems state: "As a working basis, a temperature of from 65° C. to 70° C., (149° to 158° F.) maintained for twenty minutes, would be amply sufficient to destroy all pathogenic non-spore-bearing forms. It should be added that the vessel should be a closed one. The degree of temperature and the time actually required would depend somewhat upon the care with which the work was done."

The temperatures recommended, 149° F. to 158° F., are higher than are generally possible with tap water. A comparison of the temperatures used in these experiments show that satisfactory results may be obtained at somewhat lower temperatures if the time period of exposure is sufficient. To meet the deficit of satisfactory temperature, two soap washes might be used to secure the same results.

The results with these three formulas illustrate the effect of variations in temperature on the pathogenic type of organisms. In Formula A, the clothes were rinsed in hot water direct from the tap and as hot as would be available in the suburban home. The hot water direct from the tap did not exceed 137° F., and after being in action in the machine dropped in temperature to 128° F. or less. This range of temperature for a period of 15 minutes did not entirely remove *B. coli.*

In Formula B the water from the tap ranged from 119° F. to 131° F., but the rinse water was not hotter than 125° F. at the end of the three five-minute rinse periods. This group of washings also had a slight increase in alkalinity due to the addition of modified soda in the cold soak. However, *B. coli* was present in the last rinse in three different washes of the B group.

The temperature of the scalding rinse in Formula A was raised by the addition of boiling water. The temperature of the water reduced to 180°-185° F., when the water was poured into the washer. The temperature of the water, however, remained between 128° F. and 131° F. during the ten-minute rinse. An average of 138° F. was maintained during the second rinse of five minutes. The washings under this formula showed the presence of *B. coli* in the sample and wash water, as introduced into the cold soak. The organisms were present in five or six of the washes during the suds water period and then were completely eliminated before the end of the second rinse.

This result would indicate that Formula C produced a wash free from pathogenic organisms at the end of the first rinse, by means of an average temperature of 148° F. or more for a period of ten minutes, and an average temperature of 128° F. or more for an additional five minutes.

The scalding rinse might be difficult to secure in some households and in regions where the water is very hard. The sanitary condition which results from its use is, however, very desirable, especially for garments which are used rough dry and which are not exposed to the sun while drying.

Formula A may be expected to produce a finished wash with a reduction of 83 per cent of the original organisms in the garments. Formula B should reduce the number of colonies of organisms 73 per cent or more. Formula C should reduce the number of colonies 98 per cent. The formulas may be graded according to the number of bacteria per c.c. which remained at the end of the last rinse as follows:

Good: Formula C—less than 1,000 colonies per c.c. in final rinse.

Fair: Formula B and Formula A—less than 10,000 colonies per c.c. in final rinse, with marked reduction after Rinse I.

Since the temperature of the water is often not subject to the control of the housewife, we must remember that special emphasis should be given to the effect of soap and soda; where the temperature of the water is too low for the best results, more attention should be paid to the supplies and method, especially the time of exposure.

RECOMMENDATIONS TO THE HOUSEWIFE

From the results described above, we can deduce the following general recommendations to the housewife.

1. *Solutions and test materials.* Dissolve soap materials before adding to the load, for a soap solution of mild soap chips and modified soda is an effective cleansing agent. Use a thermometer to test the temperature of the water during the several processes (in a short time one should be able to estimate temperature of water fairly accurately by the hand).

2. *Washing process.* The preceding formulas have been tested under very favorable conditions of time and materials. In many homes neither time nor materials would be available for as many

rinses. Formula C might have to be modified for household use. Rinse III might be omitted. The washing formula would then include:

(1) Cold soak with break lukewarm water.....	5 minutes
(2) Warm suds	15-20 minutes
(3) Rinse I—Scalding rinse	10 minutes
(4) Rinse II—hot tap water	5 minutes
(5) Rinse III—cold tap water and blue.....	5 minutes

In regions of very hard water the scalding rinse would have to be further modified.

3. *Drying.* If clothes are dried in the sunlight, the temperature of Rinse I might be lowered. Otherwise the safeguard for producing a sanitary wash would have to be met by maintaining the temperature of the rinse for the stated period of time.

4. *Baskets and hampers.* No one needs to be persuaded that clean baskets or hampers should play an important part in the later processes of laundering.

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NEW STUDIES IN EDUCATION

CONTROL OF AVAILABLE PUBLIC SCHOOL INCOME

With Special Reference to Cities of New York State *

WHAT school administrator has not been embarrassed and inconvenienced by a shortage of funds with which to meet teachers' salaries or other financial obligations? This situation is usually brought about through a failure to have receipts and expenditures properly synchronized.

Is the tax calendar properly coordinated with the school fiscal year? Are tax moneys received before the beginning of the fiscal year, early in the fiscal year, or many months after the year has begun? What are the factors affecting the timely receipt of public school money? If tax moneys are not available early in the fiscal year, what adjustments are made to secure funds with which to meet school needs? How well are funds which are available in advance of need being administered? The answers to these and related questions for the school systems of New York State are given in this monograph.

The field data upon which this study was based were secured by the author through personal visitation of forty-three cities and seven villages in New York State. The findings and recommendations growing out of this study should be of practical value not only to educators in New York State but also to schoolmen generally, and should constitute a guide to students of public school finance.

This is a period wherein the call for retrenchment in school and other public expenditures is being heard on every hand. The school administrator as never before must justify the expenditures which are made to provide facilities for the education of the youth of the land. Wise economy and sound business procedures should universally govern the administration of public school moneys. This study has revealed numerous possibilities for further economy in such administration in the cities and villages visited. Since the recommendations presented are in harmony with sound and accepted principles of school administration and business procedure, their application should be far-reaching.

FINDINGS AND RECOMMENDATIONS

The following findings and recommendations should be of general interest:

1. Collection of school taxes began all the way from three months *before* to over seven months *after* the beginning of the fiscal year. This is not a creditable showing since sound business practice demands a closer coördination between the receipt and disbursement of funds. This

* By Dale S. Young, Ph.D. Teachers College, Columbia University. Contributions to Education, No. 305.

coördination is ideal when the tax calendar is so arranged that the tax collection begins with the opening of the fiscal year.

2. Delay in both the completion of the assessment roll and the final approval of the school budget by the municipal reviewing authority were the two main factors preventing the proper coördination of tax collection with the beginning of the fiscal year.

3. With but few exceptions, it was found that when the tax calendar was well coördinated with the fiscal year, all taxes, state, county, city, and school, were collected at the same time. On the whole, this is a commendable plan, especially if these taxes are payable in at least two installments with no additional charge on the deferred payment or payments. Under certain conditions a discount could be given those who pay their taxes in advance of a fixed date.

4. The interest rates paid on daily balances by depositories for the use of school moneys were practically the same as were being paid for the use of city funds. The highest rates, however, were paid where these depositories were chosen after bids had been submitted for the use of these funds. This method of selecting the depository should be followed more extensively. Interest rates are also increased through the pressure of public opinion. School boards should make every legitimate effort to secure increases in the rates of interest received on deposits.

5. School boards are not depositing their funds in savings or other inactive accounts as extensively as balances on hand during the year would warrant. Since the rate of interest paid for the use of money deposited in such accounts is nearly twice that paid on checking account balances, it is evident that a maximum amount should be kept in such accounts at all times. A careful analysis of monthly balances over a period of years will enable the custodian of school funds to ascertain that maximum amount which, with safety, can be deposited in these inactive accounts. Proper attention to this phase of income control will guarantee to the school board the greatest possible return from funds which are available in advance of the actual need for their expenditure.

THE DEVELOPMENT OF THE TEACHING OF AGRICULTURE IN MISSISSIPPI *

THE purpose of this study was to trace the development of agricultural teaching in Mississippi from the beginning to the present time; to make an analysis of present-day practices in order to discover deficiencies; and to recommend certain changes to overcome these deficiencies. The economic and sociological factors that make up the historical background of the study were employed to show their influences on the growth and development of agricultural education in the state.

The history of the establishment of agriculture in Mississippi began with the attempts of the French under the leadership of D'Iberville to make a permanent settlement in the state, and continued with the successful efforts of the English to institute different systems

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of farming, namely, the plantation, the small independent farms, and the landlord and tenant types. The economic conditions in Mississippi from 1800 to 1920 pointed out the beginnings of scientific farming.

Various laws were passed in the interest of agriculture and the establishment of agricultural societies and bureaus. The year of 1870 began the era of farmers' organizations which encouraged the idea of schools offering instruction in agriculture. Subsequent acts of the legislature made possible reports and surveys of the state and these are described at some length, showing the rapid development which followed. Farmers' institutes, experiment stations, and boys' and girls' club work followed in succession.

A study of school curricula was made from the first inclusion of agriculture in 1903 to the establishment of the Agricultural High Schools and Smith-Hughes Vocational Schools which function at the present time. Tangible results in project work and community service vouch for the success of vocational agriculture in both types of schools.

CONCLUSIONS

The following are some of the conclusions which were developed from the study:

1. The Agricultural and Mechanical College, though occupying the most prominent place in the program of agricultural education in the state, needs some changes, the most noticeable of which is the provision for a well-equipped training school of "consolidated high school" type on, or adjacent to, the college grounds.

2. The single, uncorrelated course in agriculture which appears in the elementary school curriculum is without practical value, and the state laws are too drastic to permit changes in this curriculum.

3. The Agricultural High Schools are at present experiencing a period of transition. The purpose for which they were established, namely, to serve the farmer, seems to have been lost, and instead of meeting the needs of rural communities with reference to agricultural education, their curricula have become the measure of college entrance.

Recommendations were made as follows:

1. An adequate training school for teachers of agriculture at the Agricultural and Mechanical College.

2. Reorganization of the courses of instruction in the department of Agricultural Education of the Agricultural and Mechanical College.

3. A change in the state law so as to permit more elasticity in the elementary school curriculum.

4. Reorganization of the elementary school curriculum.

5. A plan to be worked out for the Agricultural High Schools which could be adjusted to solve the problems of future progress peculiar to each school.

6. Adequate outdoor equipment, farm shops, books, indoor laboratories, and laboratory areas in Smith-Hughes Schools.

AN ANALYSIS OF THE CHARACTERISTICS OF CITIZENSHIP *

What are the characteristics of a good citizen? What specific duties does he perform in his life as a citizen? What difficulties does he face? What traits or qualities does he need most? What provision is made in the public schools for the teaching of the more important duties, difficulties, and traits of good citizenship? It is with these questions that this study is concerned.

The data are from three groups, namely, 350 junior and senior high school students, 80 representative citizens chosen from various social and occupational groups in a town of 14,000 inhabitants, and 200 representative citizens chosen from various type communities throughout the country. The 350 students were asked to write their opinions regarding the duties, difficulties, and qualities of good citizenship; the 80 citizens were interviewed, and the 200 citizens answered questionnaires in regard to these duties, difficulties, and qualities.

The students named a total of 78 duties, 111 difficulties, and 107 qualities which are arranged in tables according to frequency of occurrence. The duties, difficulties, and qualities named by the 80 citizens interviewed and the 200 citizens who answered the questionnaire were also tabulated and arranged in order of frequency of occurrence. They named a total of 191 duties, 214 difficulties, and 293 qualities, which are reported in the form of tables.

In comparing the duties, difficulties, and qualities named by the high school students with those named by the adult representative citizens, we find that there is but little agreement. It is therefore evident that the concepts of high school students and those of adult citizens differ widely as to what are the most important characteristics of citizenship.

A good index of the content of current civics courses is found in the content of the textbooks used. Hence, as another means of validating the findings of the study, a textbook analysis was made.

Five of the most commonly used textbooks in civic courses were analyzed. A detailed check was made of the number of pages, fractions of pages, lines, and words devoted to discussion or treatment of the items named by the 280 citizens as important in citizenship.

As a result of this analysis, it was found that the per cents of space devoted to these duties, difficulties, and qualities were as follows: textbook A, 5.2 per cent; textbook B, 2.9 per cent; textbook C, 3.2 per cent; textbook D, 10 per cent; textbook E, 6.9 per cent; average 5.64 per cent.

In so far as the duties, difficulties, and qualities named by the representative citizens are of most importance, present textbook courses are inadequate in training children for the responsibilities of citizenship. Likewise, the above analysis indicates that much time is being spent in the study of materials which contribute but little to training in those characteristics of good citizenship which are rated as most important by representative citizens.

CONCLUSIONS

The study shows that the following conclusions are justified.

1. The school should have a definite

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objective in training for citizenship in terms of the duties, difficulties, and qualities involved.

2. The existing civics texts do not meet the needs shown by an analysis of the duties, difficulties, and qualities of citizenship which representative citizens report as most important.

3. Civics courses based chiefly on textbooks compiled by introspective methods do not train in the characteristics of citizenship which are reported as most important.

4. Civics courses as now organized do not train pupils for the duties, difficulties, and qualities of citizenship which representative adult citizens report as most important.

5. Students' concepts of the characteristics of good citizenship do not conform with those of representative adult citizens.

6. Children leave school with the expectation of encountering very different duties and responsibilities than those reported by adult representative citizens as most important.

7. The enumeration of characteristics derived from this study should serve as suggestive material for the content of citizenship courses.

8. The findings of the study should be helpful as criteria for evaluating materials treated in citizenship courses or civics textbooks which are already in use or are under consideration.

9. An important means for determining what shall be taught in citizenship courses is an analysis of the characteristics of citizenship.

ADMINISTRATIVE PROCEDURES OF CURRICULUM MAKING FOR PUBLIC SCHOOLS *

IT is the purpose of this study to deal particularly with those elements of curriculum making in our public schools which are chiefly administrative. The study should prove helpful to those who are responsible for planning and administering curriculum programs in public school systems.

There seems little need to state a reason for undertaking such a study. At the present time more than 1,000 school systems are engaged in curriculum revision. Such an expenditure of time, energy, and money should return the largest possible value. Wise administration of the program does much to avoid waste; hence it seems timely to conduct a study concerning administrative procedures and practices which are and should be used, with a view of discerning which would seem to give the largest returns in the form of an effective and efficient program. It is hoped that this study will serve as a handbook of information and guidance for busy administrators who undertake to conduct a program of curriculum making.

PURPOSES OF THIS STUDY

The study has three fundamental purposes:

1. An analysis of the principles underlying curriculum making, especially those having to do with the instituting and carrying on of the actual program.

2. An analysis of the administrative procedures used by progressive systems in their curriculum programs.

3. A critical review of administrative procedures so far used with the aim of

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establishing certain basic principles for those planning programs of curriculum making in public school systems.

In conducting the study, a careful evaluation was made, not only of the writings, but especially of the actual practices employed by certain progressive school systems which have given particular attention to curriculum making during the past several years.

In order to make possible an intensive study of as many factors as possible, the investigation was limited to a study of twelve systems. These systems, located in different sections of the country, represent progressive tendencies in education and are as follows: Denver; Houston; Long Beach, California; Madison; Minneapolis; Oakland; Oklahoma City; Port Arthur, Texas; Rochester; San Antonio; Sioux City; and St. Louis.

ADMINISTRATIVE FACTORS STUDIED

The factors studied intensively in this study are here listed.

1. Distinction between curriculum and course of study.
2. Size of the program.
3. Scope of the program.
4. Length of the program.
5. Composition of the curriculum.
6. Official in charge of the curriculum.
7. Cost of the curriculum program.
8. Clerical assistance.
9. Mechanical form of the curriculum.
10. Subjects or normal pupil activities.
11. Relation of textbooks to the curriculum.
12. Relation of supplies to the curriculum.
13. Curriculum library provisions.
14. Publicity and the curriculum.
15. Morale and curriculum making.
16. Boards of education and curriculum making.
17. Relations of various professional groups to the curriculum program.
18. Responsibility for various phases of the curriculum program.
19. The relation of work on the curriculum to other duties.
20. Responsible agent for installing new courses.
21. Bases for the selection of curriculum workers.
22. Training of curriculum workers.
23. Size of committees.
24. Size of the job assigned committee.
25. Number of committees working on the curriculum.
26. Number of individuals working on the curriculum.
27. Frequency of committee meetings.
28. Unifying the work of committees.
29. Determining the success of the curriculum.
30. Major outcomes of the curriculum program.
31. Measuring the curriculum.
32. Types of experimental studies.
33. Appraisal program.
34. Philosophies underlying the curriculum program.
35. Administrative factors and the curriculum program.
36. The determination of the theories of curriculum making.

As the systems studied have given a great deal of careful attention to the organization and administration of their respective programs, the plans followed should be of considerable significance. This is particularly true when the plans used are considered in the composite. The conclusions drawn are, therefore, based upon the composite procedures which these cities have found wise in actual practice and which are in accord with sound administrative principles.

In order to orient the reader a brief account is given of the program of curriculum development which has gone on in this country, with a description of the factors and agencies which have affected its growth. Those which received especial attention are:

1. The separation of education from the social and economic development of the country.
2. The influence of European schools.
3. The influence of the college.
4. Changes in school organization and administration.
5. The work of national committees.
6. The force of public opinion.
7. Enactments of state legislatures.
8. The school survey.
9. The influence of the philosopher.
10. The development of scientific methods and the influence of the psychologist.
11. The work of the experimental school.
12. Influence of public school leaders.

Through such a study, it is shown how the curriculum has developed from the most narrow type to one which is having a potent influence on all phases of contemporary American civilization. Many of the forces which have influenced the development of the curriculum continue to exist. New ones are continually arising. The trends of the future development of curriculum making are influenced by the agencies which have affected it in the past.

The body of the study is concerned chiefly with analyzing the practices used in the various systems in connection with the thirty-six administrative facors as enumerated.

The study concludes with a critical review of the various administrative practices, together with a statement of the principles which it would appear should guide those responsible for planning and conducting programs of curriculum making.

COLLEGE NEWS

EDUCATIONAL ADMINISTRATION

Professor N. L. Engelhardt spoke at the eightieth annual convention of the Hampden County Teachers Association in Springfield, Mass., on November 2. He appeared before both the general and the administrative sections of this conference.

At the meeting on November 9 of the New England Association of School Superintendents, held in Boston, Dr. Engelhardt reported on the result of recent research in public school business administration. He stressed the gains which have been made in the fields of school building development, financial accounting, and budgetary procedure. He also reported on the detailed researches which were being made in such fields as budgeting of school equipment, the variation of unit costs of school buildings, and the variation of cost due to the character of the administrative organization.

Professors Strayer, Engelhardt, and Elsbree appeared before the combined school districts, District Number 2 and District Number 3, of Rye, N. Y., November 13, and discussed plans for the advancement of the recommendations made by them during their recent school building survey in those communities.

Professor Carter Alexander on October 20 met with the salary committee and the executive committee of the New Jersey Normal School Association at Newark for final discussion of the salary schedule which he has drawn up for the association.

This schedule was presented to the whole Association at its annual meeting at Atlantic City on November 10.

The extension class in course of study revision conducted by Professor C. Alexander this semester at Rutherford, N. J., has an enrollment of fifty-six from the Rutherford schools and two from the schools of Hasbrouck Heights, N. J.

Room 215, Teachers College, has been set aside as a laboratory for students preparing for school superintendencies. It will be open daily from 9 A. M. until 5 P. M. Students will have the assistance of Miss Evelyn Horton, statistician. A member of the staff will be available every afternoon from 2:30 to 4:30 for consultation.

Professor Paul R. Mort on October 26 addressed the Department of Intermediate Schools of the Maine Teachers Association on education of boys and girls in the intermediate grades. Professor Mort on November 1 and 2 addressed the Omaha, McCook, and North Platte regional meetings of the State Teachers Association on equalizing educational opportunity in Nebraska. He addressed the Annual Conference of

School Superintendents and Principals of Normal Schools and Teachers College of Pennsylvania, November 7 and 8, on the proposed new financing plan for the public schools of Pennsylvania.

Members of the second major course for superintendents of schools spent October 8 and 9 in Newburgh, N. Y., doing field work in connection with the Newburgh Survey.

Annual public educational expenditures aggregating one hundred and fifty million dollars are involved in the consideration by eight states of the plan developed by Professor P. Mort for the state support of education.

Dr. Mort's plan, which is intended to give all the children of a state, rich and poor alike, acceptable educational opportunities through a system of taxation under which the wealthier communities help pay for the schooling in less fortunate districts, has been adopted by New York and Alabama, and will be considered during the present winter in Nebraska, Kansas, and Pennsylvania. Similar plans developed at Teachers College by Dr. Gordon Singleton and Dr. F. N. Morrison are in operation in Georgia and North Carolina and a plan developed at Teachers College by Dr. Alfred D. Simpson will be considered by the Connecticut Legislature at its next session.

Under Professor Mort's plan the average educational expenditures of the communities of average wealth of the state is accepted as the minimum amount which should be expended by every community. A tax rate no higher than that necessary in the ablest community to support the average program is accepted as the amount which should be common to all communities. Thus no community under this plan is forced to exhaust its tax-paying power to support an imposed educational program.

The fifth volume of the Strayer-Engelhardt School Administration Series has been published by the Bureau of Publications, Teachers College. It is entiled *School Building Management* and its authors are Dr. Charles E. Reeves, Professor of Education, Elmira College, Elmira, N. Y. and Dr. Harry S. Ganders, Professor of Education, University of Cincinnati, Cincinnati, O. The field covered is the entire management of school buildings, including their care and operation. The book is written for the purpose of improving the maintenance and operation of school plants. In any administrative organization every person who contributes to the carrying forward of the program of work to be done is important. It is peculiarly true in a system of public schools that the work of the janitor-engineer contributes to the efficiency of every other person who works in the school system. If the heating and ventilating system is not operated effectively children and teachers suffer as a result. The quality of work done will certainly be diminished if maladjustments are permitted. The cleaning of windows, floors, and lighting fixtures is significant, not only for the comfort of pupils and teacher, but also for their health. The good will of a janitor-engineer who recognizes the importance of his work may prove to be a most significant factor in the morale of the school. The authors of this book have brought together the results of their own investigations and of other workers in the field. They have had first-hand experience in the training of school cus-

todians. The text will prove most helpful to superintendents and principals of schools who would advise with janitors and engineers intelligently; it will serve as a manual and book of reference for competent custodians; and as a textbook for courses dealing with the maintenance and operation of school buildings.

Professors Engelhardt and C. Alexander have prepared the third volume in the series of problem books which have been developed by the members of the staff of educational administration and are published by Bureau of Publications, Teachers College. This volume is entitled *School Finance and Business Management Problems.* The book is designed for school executives and for college classwork in the teaching of school finance and business management. The 113 problems of this volume appear under the following sections: (1) fiscal control and business management; (2) business practice; (3) accounting; (4) the school budget; (5) revenues and their management; (6) indebtedness and bonds; (7) management of physical property; (8) research in finance and business management; and (9) public relations. The introduction to this volume is written by Dr. George D. Strayer.

ADVISERS OF WOMEN AND GIRLS

The New York State Association of Deans, of which Professor Sarah M. Sturtevant is the first president, held its second annual meeting in Rochester, November 16 and 17, in the Hotel Sagamore. The attendance represented those interested in various phases of student guidance and personnel in the high schools, normal schools, colleges, and universities of the state.

The program chiefly considered two topics: the use of objective measures in personnel work, and correlation between high school and college in terms of personality. Objective measures were discussed by Dean Herbert E. Hawkes, of Columbia University; Miss Laura McGregor, director of research in the Rochester schools; and Dr. George Estabrooks, of Colgate University. Correlation was discussed by Mr. C. C. Tillinghast, principal of Horace Mann School for Boys, and by Miss Sarah Ross, dean of Skidmore College.

Round-table group meetings allowed for intimate consideration of such topics as "The Development of Appreciations," "The Technique of Adjustment," "Ways and Means of Developing Social Understanding in Young Teachers." These meetings were under the leadership of Dr. Juliana Haskell, adviser to graduate women, Columbia University; Dr. Anna Lee Smith, psychiatrist, Strong Memorial Hospital; and Miss Catherine Reed, dean of women, Buffalo Normal School.

Other guests and speakers were Dr. Charles Judd, of the University of Chicago; and Dr. Dora Wagner, of Dresden, Germany.

In business and committee meetings the function of a state association was discussed. Objectives for the New York State Association were outlined as professional fellowship, improved standards of work, and better state and community understanding of the personnel point of view in education. To the achievement of these objectives committees were appointed.

Professor Sturtevant spoke before the Elementary Principals and the Secondary Division of the Nebraska State Teachers Association, and also the Secondary

School Principals of the Iowa State Teachers Association in November. Her subjects were "Ways and Means in Character Education" and "A Constructive Program of Work Among High School Girls." In Nebraska she met the State Deans' Association, addressing the college section as well as the general session, and was the guest and speaker of the Nebraska Woman's Educational Club.

In Iowa the meeting with the Deans' Association took the form of a two-day conference in which such topics as "The Interview," "The Theory of Discipline," "The Qualifications of the Dean of Girls," and others germane to the work of the dean were discussed under the leadership of Professor Sturtevant.

While in Nebraska, Professor Sturtevant visited the State Teachers College at Wayne where Miss Helen Pence, of the Advisers Class of June, 1928, is the dean of women.

The staff of the division of Advisers to Women and Girls entertained the entering class at after-dinner coffee in the Woman's Faculty Club October 4. The Advisers Club was organized, and the following officers were elected: President, Miss Blanche Davidson, dean of girls at Springfield, Ill.; vice-president, Mrs. Isabel Kellars, adviser in the John Burroughs School, St. Louis, Mo.; secretary, Miss Louise Seabolt, assistant to the dean of women at Duke University, Durham, N. C.; treasurer, Miss Margaret Smith, recently assistant dean in State Teachers College, Westchester, Pa.

The Research Committee of the New York State Association of Deans, which consists of Miss Anna E. Harvey, dean of Adelphi College, Brooklyn; Miss Grace T. Lewis, dean of girls at Mt. Vernon High School, and Dr. Ruth Strang, chairman, has undertaken a personnel study of the work of deans of girls in public high schools of New York State. This is a part of a more complete study of the work of deans of girls in public high schools of the nation, now being carried on through the department of Advisers to Women and Girls.

Professor Sturtevant October 27 spoke before a group of deans from the State of New Jersey, who were the guests of the New Jersey College for Women at New Brunswick, N. J. Her topic was "A Suggested Program for a State Deans' Association." A state organization was effected and officers elected for the coming year.

BOYS' WORKERS

With Canada and all parts of eastern United States represented, the eleventh annual six weeks' short course of instruction for Workers with Boys closed November 22. The course, given by Teachers College in coöperation with the Boys' Club Federation, was directed by R. K. Atkinson, educational secretary of the Boys' Club Federation, and by Professor Elbert K. Fretwell.

Thirty-eight men and women, prominent in young people's work, discussed various phases in training for professional and volunteer leaders. It was brought out that of the one hundred and fifty-seven persons who had taken the course in the last ten years, one hundred and one were actively engaged in working in professional capacities with boys.

Lecturers and discussion leaders included C. J. Atkinson, Boys' Club Federation; William L. Butcher, International Boys' Work Council; Daniel

Chase, Sportsmanship Brotherhood; Nat Frame, American Country Life Association; William E. Hall, President, Boys' Club Federation; Karl D. Hesley, Henry Street Settlement; John Martin, publisher of children's books; Jay B. Nash, New York University; C. C. Robinson, National Council, Y. M. C. A.; Miss Grace Reeder, New York Welfare Council; Evart G. Routzahn, Russell Sage Foundation; Rowland C. Sheldon, Big Brother and Big Sister Federation; Frederic M. Thrasher, New York University; and Ray O. Wyland, Boy Scouts of America.

BUREAU OF CURRICULUM RESEARCH

Twenty-six thousand courses of study now on file in the Bureau of Curriculum Research on the first floor of the new Lincoln School annex, have been evaluated and are available to students, faculty, and alumni. There are also available 50,000 abstracts of scientific investigations and educational discussions pertinent to curriculum problems. This material has been placed on a library service basis.

Miss C. Mabel Smith, for the past five years director of curriculum and research in the Houston public schools, has obtained a year's leave of absence, and is at present a member of the staff of the Bureau.

The third year's work in curriculum making in the Coatesville, Pa., schools has been started by Superintendent Carl O. Benner and the teachers. An extramural course, participated in by several members of the Teachers College faculty, is conducted in connection with the work.

CHARACTER EDUCATION INQUIRY

The Character Education Inquiry is now in its fifth year. The first volume of its report, a 750-page book called *Studies in Deceit,* was published by Macmillan in April. The remaining volumes will be issued during the coming twelve months and will include the Inquiry's studies in service and self-control and in the integration of character, as well as a manual of character tests.

Dr. Mark A. May, who is now professor of educational psychology at Yale University and giving half time to the Inquiry, devoted the summer months to the statistical phases of the work. In this he was assisted by Dr. Julius H. Maller.

Dr. Hugh Hartshorne spent a few weeks in Chicago, giving two courses at the summer session of the University in Character Measurement and Character Education.

The office of the Inquiry has moved to the new Research Annex of Lincoln School.

COLLEGE ADMINISTRATION

The students in College Administration for the current session are representative of a large number of different colleges and other educational agencies in at least thirteen different states, Porto Rico, and Hawaii. States represented this semester are Alabama, Arkansas, California, Illinois, Kentucky, Maine, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, Virginia, and Wisconsin. Approximately one-third of the group are women. The various positions from which these individuals have come include the following titles: college president, headmaster, ad-

ministrative assistant, research assistant, executive secretary, registrar, dean of women, personnel adviser, assistant director of the summer session, director of admissions, vice-dean of the school of agriculture, director of the school of nursing, director of the college of home economics, state director of physical education, assistant director board of missions, college Y. M. C. A. secretary, as well as instructors of various ranks representing the fields of business administration, household arts, English, education, nursing education, industrial arts education, Greek and music.

Professor R. J. Leonard, Professor E. S. Evenden, and Professor F. B. O'Rear presented the Survey of Higher Education for the United Lutheran Church in America to the Sixth Biennial Convention of that body at Erie, Pa., October 15. The convention accepted the general report and approved plans for the publication and distribution of the survey. It will be published in the near future by the Bureau of Publications of Teachers College.

The University of Maine, Bowdoin College, Bates College, and Colby College have undertaken a coöperative survey of higher education in Maine. An agreement has been arranged with Teachers College whereby Professor R. J. Leonard is to serve as adviser throughout the course of the survey and the staff and students of the department of College Administration are to participate in certain phases. Professor Leonard and Professor F. B. O'Rear made a visit to the University of Maine during the week of October 14 for the purpose of discussing plans and procedures for the survey.

Dr. O'Rear spent a week recently visiting the University of Florida and the Florida State College for Women in connection with the survey of these two institutions which is being made by the department of College Administration as a part of the state-wide educational survey authorized by the state legislature.

EDUCATIONAL MEASUREMENTS AND STATISTICS

Because of the steadily increasing enrollment, the class in elementary statistics has been reorganized to meet in three sections, differentiated according to the previous experience and training of the students. Each section has two class periods a week as before, and in addition one section receives two hours of laboratory work weekly, another section one hour, and the third section no such assistance. During the absence of Professor William A. McCall, the course is being taught by Miss Helen M. Walker with the assistance of Mr. Allan R. Congdon, who is in charge of the laboratory periods.

The June issue of *Isis* contains an article by Miss Walker dealing with the history of correlation theory. It has long been known that the mathematical formula for the normal surface of probability was given in a *memoir* read before the *Institut de France* in 1846 by a French physicist named Auguste Bravais, who thus set forth the mathematics of the normal correlation surface three decades before the idea of correlation had been conceived. Miss Walker's paper shows that a similar result had been reached as early as 1811 by the Italian astronomer Giovanni Plana, and that Plana's formula contained a term exactly equivalent to the coefficient of

correlation. Neither writer, however, conceived of his work as having applications outside the fields of astronomy, physics, geodesy, or gambling, and the discovery of this early paper in no way detracts from the credit due to Sir Francis Galton as the real discoverer of correlation theory.

EDUCATIONAL PSYCHOLOGY

An article on "Psychology of the Family" will be contributed by Professor Leta S. Hollingworth to the fourteenth edition of the *Encyclopaedia Brittanica.*

Professor Rudolph Pintner is giving a series of five lectures on Intelligence with Demonstration of Tests to the New York City Association of Private School Teachers.

ELEMENTARY EDUCATION

Professor J. R. McGaughy, at the invitation of Superintendent Charles Meek, spent the week of October 22 in the public schools of Toledo. While there he gave two addresses before the Northwestern Ohio State Teachers Association meeting in Toledo.

The officers of the Elementary Club for 1928-29 are: President, Miss Marion P. Barnson; vice-president, Mr. Chester Newlun; secretary, Miss Susan W. Norton; and treasurer, Miss Sue B. Cook.

Professor M. B. Hillegas addressed two sections of the State Teachers Association of North Carolina at Hendersonville, N. C., October 26, and at Winston Salem October 29. He visited schools at Greensboro, N. C., October 30.

A survey of the elementary schools of Newburgh, N. Y., was made during the week of October 7 by Professor Lois C. Mossman and a group of students.

FRENCH

The plan of graduate studies offered by Teachers College in coöperation with the University of Paris was outlined October 25 by Professor Albert Cru at a meeting of the New York State Modern Language Association, eastern section, at Schenectady, N. Y. "This plan," he said, "offers to future teachers of French an opportunity unparalleled elsewhere, of securing a higher degree while, at the same time, preparing themselves, through first-hand study of the French language and civilization, to be efficient teachers of their chosen subject."

EDUCATIONAL SOCIOLOGY

The New Mexico Educational Association held its annual convention at Albuquerque, N. M., November 1-3. Professor D. H. Kulp spoke on the need of education, athletics in the high school, child nature and group control, propaganda and the democratic myth in education, and what administrators need to know.

Professor Kulp also spoke before the Rhode Island State Nursing Association on sociological aspects of nursing experience, November 9 and at the joint meeting of the New Jersey State Teachers Association and the New Jersey Home Economics Association November 12, at Atlantic City, on objective methods of determining norms and standards in home economics education.

Miss Helen Hiller Davidson and Mr. M. Taylor Matthews are assistants in the department of Educational Sociology.

The American Sociological Society

will meet in Chicago in January. Sociological methods applied to problems of rural education will be the general topic. Professor George B. Neumann, of the State Teachers College, Buffalo, N. Y., is chairman of information.

FINE ARTS

The American Exhibit at the Sixth International Congress for Art, held in Prague last summer, was arranged and hung by Professor George J. Cox, who was one of the three official representatives from the United States. The exhibit included the work selected for the court of honour at the Eastern Arts Convention, which was also arranged by Professor Cox. It was augmented by material crowded out at Hartford. The whole exhibit gave a vivid cross section of American Art Education in many public and high schools and a few colleges. In character it ranged from the freest creative work of the West to the careful traditional style of the East.

The art departments of Teachers College and the Horace Mann School were well represented by work from the classes under Professors Sallie B. Tannahill and A. W. Heckman, Miss Belle Boas, Miss E. E. Ruffini, C. J. Martin, and A. R. Young. Many Teachers College graduates attended the official banquet at which more than five hundred Americans were present.

Before the exhibit was dispersed a selection was to be made to form a traveling exhibit for use in Europe, in exchange for a similar exhibit from Germany. Heads of the schools wishing to secure this exhibit should communicate with Miss Helen Plumb, Director of Industrial Arts of the American Federation of Arts, 40 East 49th Street, New York City.

Professor Cox has been elected a member of the Eastern Arts Association Council.

The Teachers College Bureau of Publications is bringing out a third edition of Mrs. R. R. Tregenza's loose-leaf folio, *The Decoration and Furnishing of Homes*. It will contain, besides the material formerly included, five new or revised plates.

Mr. Charles B. Upjohn was among the select number of American exhibitors included in the International Exhibit of Ceramic Art, held in the Metropolitan Museum of Art during October. He was represented by a glazed terra cotta bust.

Miss Belle Boas is talking on "The Function of Art in the School," for the Child Study Association of America. Miss Boas is exhibiting several prints at the Rhode Island School of Design's fiftieth anniversary exhibition.

Miss Belle Northrup gave a lecture for the National Retail Dry Goods Association at the Costume Art Bureau of New York City. This was one of the lectures in a course given to stylists in department stores throughout the country. She has been appointed one of the directors of the newly formed National Bureau of Costume Art, which is a part of the National Retail Dry Goods Association.

Miss Northrup spoke before the Northern New Jersey teachers, at the Bamberger department store, Newark, N. J., on "Style Tendencies."

HORACE MANN SCHOOL

Professor Rollo G. Reynolds, Professor C. C. Tillinghast, Mrs. Jesse F. Wil-

liams, and Professor Elbert K. Fretwell spoke at the opening meeting October 23 of the Parents Association of the Horace Mann Schools. Following the general meeting a reception was held.

Mrs. Williams, president of the Parents Association, greeted the seven hundred parents. Professor Reynolds outlined the aims and ideals of the future Horace Mann School, and paid tribute to Professor Henry Carr Pearson who last year retired as principal.

Professor Tillinghast, headmaster of the Horace Mann School for Boys, stressed the point that the majority of graduates of this school had gone to colleges and universities.

Following announcements made by Professor Fretwell, chairman of the program committee, the parents went to the various classrooms to meet the teachers of their children.

HOUSEHOLD ARTS

Eighteen schools, colleges, and universities were visited by Professor May B. Van Arsdale on her way to Sacramento, Calif., where she attended, as a delegate, the convention of the Young Women's Christian Association. Among those at which she spoke were: Western Reserve University, Cleveland, Ohio; Merrill-Palmer School, Detroit, Mich.; Chicago University; School of Domestic Arts and Sciences, Chicago; Northwestern University, Evanston, Ill.; Iowa State College, Ames, Iowa; University of Nebraska, Lincoln; Denver Public Schools; University of Utah, Salt Lake City; University of Southern California, Los Angeles; State College and San Diego High School, San Diego; State College, Santa Barbara; University of California, Berkeley; Leland Stanford, Jr. University, Palo Alto; State College, San Jose; Oregon Agricultural College, Corvallis; and University of Washington, Seattle.

Demonstrations of table setting were given by Mrs. Lillian Gunn to members of the Retail Jewelers Association at the Gorham Company, Providence, R. I., on July 12, and to young men preparing to be silver salesmen, on September 11. She gave a talk on "Kitchenette Cookery" to nurses October 2 at the Nurses Central Club.

"Setting up Learning Situations for Students in Home Economics Classes" was the subject on which Professor Wilhelmina Spohr spoke before teachers of home economics of the central district of the New York State Educational Association in Utica, October 26.

Professor Spohr attended the annual meeting of the American Home Economics Association in June. She spent the rest of the summer in Norway, Sweden, and Denmark.

Analysis of the curriculum of the Horace Mann School to discover the objectives and the content of various subjects of study as they contribute to education for home sharing and home living is being undertaken in the new course, Investigations of Curriculum Materials Related to Household Arts. The course has a registration of eight advanced students. Cooperation has been established with the teaching staff of the Horace Mann School, through the efforts of Dean Emeritus James E. Russell and Dr. R. G. Reynolds.

Following analysis of the curriculum, a study of overlapping among the various subjects will be made, with the idea of reducing duplication and promoting closer coördination toward the objective

of worthy home membership at various age levels. Home economics education in the capacity of a subject designed to integrate the material, and to unify it in terms of home living will then be studied for the purpose of reëvaluation and reorganization. Research studies, conducted under the direction of Dr. Annie Robertson Dyer, will be used in the development of this program.

Professor Cora M. Winchell met with the teachers of vocational homemaking in the Illinois All-State Conference in Macomb, Ill., on October 4. She spoke on the response of home economics to changing ideals, and emphasized the importance of evolution in home economics teaching in line with the changes in homes and in educational philosophy and practice.

Miss Winchell met in conferences with the teachers of home economics of Kalamazoo, Mich., October 24, in relation to their program of curriculum revision which is in its second year of progress. There were three conferences; one with the chairmen of committees; one with all the teachers of home economics; and one, a dinner conference, with the teachers of home economics of Kalamazoo and the staff of home economics at the Western State Teachers College. At this meeting her topic was "Present-Day Trends in Home Economics Education." Miss Winchell stressed the importance of the reconstruction movement in home economics from the standpoint of a reëvaluation of content in the light of the contributions of general education to improved home and community life. She urged a closer coordination of home economics with other school subjects and with homes, also better integration within the subject itself.

Following these conferences, Miss Winchell visited schools in Kalamazoo where she observed the work of the elementary schools. En route to Detroit Miss Winchell spoke to the students of home economics in Battle Creek College, and she was guest of the Home Management House at a dinner given by the staff of the State Teachers College at Ypsilanti.

Miss Winchell spoke before the home economics division meeting of the first district of the Michigan Education Association in Detroit October 26. Speaking on steps in home economics education, she proposed discriminating selection as the fundamental step ahead, to be based upon the findings of research as developed in the social sciences, in psychology, in general education, and in the field of home economics.

Professor Anna M. Cooley spoke at Buffalo November 3 at the Home Economics Division of the New York State Teachers Association. She also attended the Rochester meeting and as president of the New York State Home Economics Association visited, en route, Utica and Syracuse. She is also planning to be present at the meeting of the southeastern district of the New York State Home Economics Association. This is her last year as president of the State Association and she is anxious to accomplish certain visits before her time of office expires.

Topical Course T58—Educational Background of Household Arts, which meets on Thursdays at 11 o'clock, has a group of sixty-eight students who are taking advantage of this opportunity. The lecturers in this course have included Dr. Bigelow, Director of the School of

Practical Arts, Professor Counts, Professor Watson, Professor Snedden, Professor Reeder, Professor Nystrom. Dean Emeritus James E. Russell and others will speak later. All students registered in the course in Teaching and Supervision of Household Arts have the privilege of attending these lectures.

News of alumni will be found on page 281.

HOUSEHOLD ECONOMICS

A graduate Summer Session course in Household Economics will be given under auspices of Teachers College, in London, England, in July, 1929, by Professor Benjamin R. Andrews, subject to a minimum number of registrations for the course. The plan is to study home and community living conditions at first hand, particularly as regards housing and town planning, coöperative enterprises, public health, education and organizations for homemaking, child care, social insurance, and other aspects of industry, and other factors affecting the life of the average family. Those who may possibly be interested to take the course are asked to communicate at once with Professor Andrews, Teachers College.

INDUSTRIAL ARTS

Professor F. G. Bonser spoke before the Fine Arts and Industrial Arts sections of the Central Ohio Educational Association November 9, at Columbus, Ohio.

Mrs. Anna Ernberg, who has charge of the Fireside Industries at Berea College, Berea, Ky., placed an exhibit of recent products from the college and homes in neighboring mountains in Dodge Hall. Before going to Berea College, Mrs. Ernberg was teacher of textiles and weaving in Teachers College. She has done a great deal to restore numerous fireside industries to the homes of the mountain people, and to find markets for their products.

Miss Winifred Spielman, member of the staff of the National Institute of Industrial Psychology of England, spoke recently before the seminar group in Practical Arts Education. She told how the Institute is working to improve the conditions and relationships in various industrial plants in England. While here, Miss Spielman is studying methods of work in industrial psychology in the United States.

News of alumni will be found on page 281.

INTERNATIONAL INSTITUTE

Fifty-one foreign students of Teachers College, representing twenty-seven countries, comprised a party which left New York, October 24, for a ten-day trip during which public schools and educational institutions were visited and studied in Baltimore, Washington, Hampton and Richmond, Va., Swarthmore, Pa.

This tour, the fourth of its kind, and an annual event in the Teachers College program for foreign students, was conducted under the auspices of the International Institute of Teachers College, and directed by Dr. M. C. Del Manzo of the Institute. Miss Isabelle L. Pratt of the Teachers College Bureau of Educational Service was chaperon.

All the foreign students on the tour were either teachers or heads of schools or administrative officers in schools in their own countries. The nations represented were: England, Scotland, Ger-

many, France, Austria, Czechoslovakia, Switzerland, Russia, Jugo-Slavia, Syria, Latvia, Palestine, China, Japan, India, Korea, South Africa, West Africa, Honolulu, Cuba, Panama, Philippine Islands, Porto Rico, Mexico, Bolivia, and Chile.

The group studied the public schools of Baltimore and of Washington, D. C., the National Education Association, the United States Bureau of Education, the Federal Board of Vocational Guidance, the Library of Congress, the Pan-American Union, and the American Red Cross while in Washington.

Aspects of negro education were studied at Hampton Institute. William and Mary College and Swarthmore College were visited.

Dr. Stanislav Velinsky, American Czechoslovak exchange scholarship holder, is attending Teachers College. Dr. Velinsky is one of eight men selected by the Institute of International Education to attend American colleges and universities for the academic year.

Five American college graduates are attending the University of Prague on these scholarships, among whom is Daniel Slabey of Union Theological Seminary.

KINDERGARTEN—FIRST-GRADE

Professor Patty S. Hill and Miss Agnes Burke attended the Utah State Teachers meeting which was held at Salt Lake City in October. Professor Hill spoke at the general meeting on "Experiments in the Education of Young Children" and "What is Worthwhile in Education?" and at the kindergarten meeting on "Curriculum Making." Miss Burke spoke to the elementary school teachers on "Social Organization in Relation to Character Formation" and to the primary teachers on "The Organization of the Activities of the Primary Grades in Relation to School Subjects."

An extension course in Activities of childhood is being conducted in Newark by Miss Charlotte Garrison, Miss Agnes Burke, Miss Alice Thorn, and Miss Alice Dalgliesh. Miss Edith Conard is giving a course in Beginnings of Fine and Industrial Arts at Bridgeport, Conn.

At a meeting of the Kindergarten-First Grade Club in October the following officers were elected: President, Miss Frances Kern; vice-presidents, Miss Helen Steele and Miss Mary Anna Gibson; secretary, Miss Marguerite Hetmansperger; treasurer, Miss Vera Going.

The first social activity of the club was a theatre party to see "The Light of Asia" at the Hampden Theatre.

MUSIC EDUCATION

A radio outfit has been installed in Milbank chapel and on Fridays at 11 o'clock opportunity is afforded for those interested to hear the series of music programs which are being broadcast by Walter Damrosch and his orchestra. This privilege is being accepted not only by members of the Music Education classes, but also by students and instructors in other parts of Teachers College. Professor P. W. Dykema is a member of the advisory council which meets with Mr. Damrosch to discuss the progress of the broadcasting.

At the monthly convocations which Dean Russell is holding, the first portion of the period is devoted to music. This includes orchestral numbers played by the advanced Teachers College

orchestra under the direction of Professor N. L. Church, and community singing by the entire assembly accompanied by the orchestra.

The weekly convocations of the Music Education students this year are in charge of a student committee with Miss Edith Hitchcock and Mr. Raymond Burrows acting as co-chairmen. At the opening meeting all the members of the staff extended greetings to the new students, and at succeeding meetings there have been music programs by the students in the department and an address by Professor Edward Dickenson of Oberlin College, who spoke on friendliness as an essential aspect of teaching.

Special vocal and instrumental music for the Thanksgiving chapel exercises at Teachers College was furnished by the students under the direction of Professor Alice E. Bivins. The singers were drawn from the women's glee club and from the men's glee club which this year is under the direction of Mr. Herbert Morris.

The picnic of the Music Education students and faculty was held on October 27. Two chartered buses and a number of automobiles transported one hundred and twenty-five teachers to Hastings-on-Hudson. After games and a camp fire supper the company gathered in Professor Dykema's residence where music and games provided a most enjoyable entertainment. The arrangements were in the hands of Mr. Glenn Gildersleeve and Dr. Kenneth F. Damon and were so efficiently carried out that it is evident these men had received training at summer school dinners under the department of Educational Administration.

Professor Bivins was the guest speaker at the North Carolina College for Women at Greensboro on the occasion of its annual alumni meeting.

Professor Dykema appeared before state teachers' associations in Delaware, Iowa, and South Dakota in November. His addresses dealt with music in normal living, some unsolved problems in music education, and recent developments in instrumental instruction. In both Iowa and South Dakota he directed choruses and orchestras of high school students who had been selected by competition and who in the two months preceding the meetings had studied the music which was used for the concerts at the state associations. Professor Dykema maintained that although school music is ninety years of age, there is still lack of agreement on such essential problems as: Who shall study music? How much time shall be assigned to it? What shall be the preparation of the teachers who present the subject? In instrumental music he pointed out that the most striking developments have been in the including of a larger number of participants. This has been brought about both by the use of simpler material so that younger children can play, and by the providing of more advanced numbers for older children so that they can adequately play music of a symphonic character.

NORMAL SCHOOL EDUCATION

Through the group in Normal School Education, Teachers College is making coöperative arrangements with normal schools and teachers colleges on the Atlantic seaboard, where students in the field of professional education of teachers may have opportunity to do practice work in supervision.

A survey of the teacher-training agencies of New Jersey is being made under the direction of Professor William C. Bagley. This is part of the general state survey of education now in progress.

The Executive Council of Kappa Delta Pi held its annual meeting in the McAlpin Hotel, New York City, October 29 and 30. Professor Bagley, laureate counselor of the fraternity, attended these sessions.

In connection with the meeting of the Florida State Teachers Association on November 30, Professor Bagley gave talks on the following topics: "Outstanding Problems in the Preparation of High School Teachers"; "Suggestions from the Survey Regarding Higher Education in Florida"; "The Training of Teachers as a Function of the State."

The Teacher-Training League has been organized and officers have been elected for the first semester as follows: President, Mr. N. Conger of Durant, Okla.; vice-president, Miss Esther Nelson of Ypsilanti, Mich.; secretary, Miss Jessie Pangburn of Spearfish, S. D.; treasurer, Mr. A. G. Peterson of Ypsilanti, Mich.; chairman of Membership Committee, Mr. Leslie B. Sipple, Aberdeen, S. D.

The League is planning for the semester, a series of monthly meetings of a professional and social nature.

News of alumni will be found on page 281.

NURSING EDUCATION

Professor Elizabeth C. Burgess has been elected president of the National League of Nursing Education for the next year. This is an organization representing superintendents, instructors and supervisors in schools of nursing, and other nurses who are primarily interested in educational work.

At the annual meetings of the New York State League of Nursing Education, Miss Mary M. Marvin was elected chairman of the program committee, and Miss R. Louise Metcalfe treasurer.

Miss Marie Puls, a graduate of Bellevue Hospital, who received her Master's degree and diploma in school nursing supervision in June, 1928, has been appointed part-time instructor to take over Miss Hulsizer's courses in school nursing. She will serve also as supervisor on the staff of the East Harlem Nursing and Health Demonstration and will help to coördinate the field work in school nursing with the work of the College and the different field agencies.

Mrs. George Taylor Douglas, a graduate of the Presbyterian Hospital, New York City, and of Goucher College, Baltimore, has been appointed part-time instructor in Home Nursing and Child Care. Mrs. Douglas has been a teacher of biology in secondary schools and has had experience as a public health nurse.

Miss Mary S. Power, a graduate of the Massachusetts General Hospital, who was a student and assistant in the Department in 1926-27, has joined the staff again this year as part-time instructor.

One of the interesting developments in the department this year is the program for the preparation of head nurses. The

department is working this out in cooperation with the nursing departments of the following hospitals: Presbyterian, Bellevue, Woman's, New York City; Englewood Hospital, Englewood, N. J.; Bloomingdale Hospital, White Plains, N. Y. This experiment has been made possible by a special appropriation from Mrs. Helen Hartley Jenkins to cover additional salary required for a coördinator and supervisor of field work. Miss Marvin has been appointed to develop this part of the program and to assist with the theoretical work at the College which is arranged for three afternoons a week during the year.

Mr. Raleigh Holmstedt, who has been a student, and, during the summer session of 1928, an assistant in the department of Educational Administration in Teachers College, has been appointed to a part-time position on the Nursing Education staff. Mr. Holmstedt, who has had considerable experience in educational survey work in public school systems, will coöperate with other members of the staff in developing scientific standards for surveying nursing schools.

A request to make a detailed survey of the Lincoln Hospital Nursing School in New York City makes it possible to begin a practical survey course this fall. A number of experienced students are now engaged in planning and carrying out this survey under the general supervision of Mr. Raleigh Holmstedt and the members of the Nursing Education staff.

Miss Blanche Pfefferkorn, recently Executive Secretary of the National League of Nursing Education and Miss June Ramsey, Director of the Pasadena Hospital School of Nursing, Pasadena, California, are the holders of the two Isabel Hampton Robb Fellowships for 1928-29.

News of alumni will be found on page 282.

PHILOSOPHY OF EDUCATION

Professor William H. Kilpatrick spoke over the radio from Station WOR on October 30, giving one of a series of lectures which are being broadcast by the United Parents Associations of Greater New York.

Dr. Kilpatrick spoke to the Teachers' Association of Toledo, Ohio, November 13, on "Freedom and Discipline." He addressed the teachers of Burlington County, New Jersey, in Moorestown, November 27.

PHYSICAL EDUCATION

Professor Gertrude K. Colby, absent on leave for this year, spent the summer in England.

Miss M. Teresa Peters, formerly head of physical education for women at Washington State Normal School, is instructor of physical education at Teachers College.

Professor Harry A. Scott, now at the University of Oregon, has completed his work for the Doctor's degree. His dissertation, *A Personnel Study of Directors of Physical Education for Men in Colleges and Universities,* is being published by the Bureau of Publications, Teachers College.

Miss Josephine Petts is in charge of physical education at Byrn Mawr College.

Assisting in the physical education department this year are Mr. Jackson Sharman, state supervisor of physical

education in Alabama, Mr. Delbert Oberteuffer, University of Oregon, Mr. Glenn Howard, University of Oregon, and Mr. Frank Oktavec.

Dr. J. F. Williams spent two weeks in Florida the first of October, assisting with the state educational survey. En route he stopped at Memphis, Tenn., and delivered a series of four lectures there to the Tennessee State Nurses Institute. He addressed the Northeastern Ohio State Teachers meeting in Cleveland, and November 12 was spent with the Physical Education Section of the New Jersey State Teachers Association. November 17 he spoke at Wheeling, W. Va., before the West Virginia State Educational Association.

Miss Mabel Ellsworth Todd of Boston, Mass., is giving a course on the basic principles of posture. Miss Todd comes to the department with a very extensive clinical experience in posture training.

Mrs. Nita Sheffield Blain and Miss Marjorie Hillas have been asked to serve as members of the athletic badge test committee for girls—Playground and Recreation Association of America. Mrs. Blain is in the swimming section and Miss Hillas in athletics.

SECONDARY EDUCATION

A preliminary report of a survey being made among New York City high school teachers on their aims of instruction and testing of results was made by John L. Tildsley, district superintendent of New York City schools, at the first meeting of the Secondary Club, October 15. The group is composed of principals and other administrative officers in schools of New York City and vicinity, and of members of the staff of Teachers College.

Professor Franklin W. Johnson appeared before the county institute in Rochester, Pa.; the Middlesex County Teachers Association in Boston; and the North Carolina State Teachers Association in Charlotte, N. C., in October.

Standardization of subjects on the "unit basis" was named as the outstanding defect in American secondary education by Dean William F. Russell at the meeting of the Secondary Club, October 30, in Grace Dodge hall. Changes in the allotment of time to different subjects were predicted.

At the business meeting, the following officers were chosen: President, John T. Kaemmerlen, New York; vice-president, John L. Sellman, Indiana; secretary, Ella Mary Crimmins, Minnesota; treasurer, Elon L. Barber, New York.

SPEECH

To meet the increasing demands made upon it the department of Speech is enlarging the scope of its offerings and defining requirements for three diplomas now granted in its field, Teacher of Speech, Teacher of Speech Education, and Supervisor of Speech Correction.

Professor Elizabeth V. D. McDowell is giving a full major course in Speech Correction and a course offered for the first time here in Psychology as Applied to Speech Education. Both courses have met with an appreciative response. Mrs. McDowell's thesis, *Educational and Emotional Adjustments of Stuttering Children,* has recently been published by the Bureau of Publications, Teachers College.

The department has appointed as part-time instructor, Mrs. Jane Dorsey Zimmerman, formerly assistant professor in the department of Spoken English, Smith College. Mrs. Zimmerman is working on problems in recording and measuring voice and diction in connection with her study in psychology for the Doctor's degree. A textbook in speech, of which she is co-author with Professor Elizabeth Avery and Professor Vera Sickels of Smith College, entitled *First Principles of Speech Training* will be published by D. Appleton & Co.

Mr. Milton Smith, instructor in English and Speech, who will offer in the Spring session a laboratory course in play production in addition to his course, Amateur Play Production, is conducting rehearsals for several plays soon to be produced in Earl Hall. He is giving try-outs to candidates for future casts.

The courses in Story-telling and Dramatics now being carried on by Mrs. Zimmerman will be in charge of Miss Helen A. Murphy after the first week in November. Miss Murphy, with Miss Mary Carpenter, her co-worker in dramatics for children at Greenwich House, has been abroad since the Summer Session collecting material for her radio story-telling and her classes here.

In connection with his teaching of public speaking at the Horace Mann School for Boys, Mr. William H. Blake, instructor in English and Speech, is making a study of speech faults of boys of high school age. The results of his findings, with comment and suggestions for improvement, will be published.

The Speech Club has held two meetings this semester, one for election of officers and first acquaintance, the second, a picnic on the Palisades. Mr. Marvin Dubbé is the president of the club. The executive committee comprises Miss Olivia Hobgood, vice-president, and Miss Laura L. Belt, secretary-treasurer, acting with the president and faculty advisers. All former members of the Speech Club wishing to receive notice of programs and meetings should send present address to the Secretary.

News of alumni will be found on page 283.

VOCATIONAL GUIDANCE

Mitchell Dreese was elected president and Minnette S. Holzman secretary-treasurer of the Teachers College branch of the National Vocational Guidance Association, which met in the social parlors of Union Theological Seminary Wednesday, October 17. The meeting was addressed informally by Dr. Douglas Fryer, professor of psychology, New York University, and Miss Winifred Spielman, investigator for the National Institute of Industrial Psychology, London, England. Dr. Lorine Pruette, author of "Women and Leisure," was also a guest.

News of alumni will be found on page 283.

ALUMNI ACTIVITIES

TEACHERS COLLEGE ALUMNI ASSOCIATION OFFICERS

President: Mr. Frank Pickell, Superintendent of Schools, Montclair, N. J.

First Vice-President: Dr. Fannie W. Dunn, Assistant Professor of Education, Teachers College.

Second Vice-President: Dr. Bessie Lee Gambrill, Associate Professor of Elementary Education, Yale University, New Haven, Conn.

Recording Secretary: Miss Mary Lewis, Teacher in Horace Mann School, Teachers College, New York City.

Corresponding Secretary: Miss Katherine I. Sherwin, Executive Secretary of Student Organizations, Teachers College.

Treasurer: Dr. R. G. Reynolds, Principal of Horace Mann School, Teachers College.

Members-at-Large: Mr. Frank Morey, Supervising Principal of Schools, Camp Hill, Pa.

Miss Effie Taylor, Professor of Psychiatric Nursing, School of Nursing, Yale University, New Haven, Conn.

Miss Marion Sheridan, 711 Orange Street, New Haven, Conn.

Alumni Trustees:

Miss Mercy J. Hayes, 301 American State Bank Building, Detroit, Mich.

Dean M. G. Neale, School of Education, University of Missouri, Columbia, Mo.

Alumni Office: Russell Hall, Teachers College, 525 West 120th Street, New York City.

Address all communications to Katherine I. Sherwin,
Corresponding Secretary, Teachers College, New York City.

SECRETARY-TREASURERS OF TEACHERS COLLEGE CLUBS

Africa—South Africa Club
Dr. E. G. Malherbe
University of Cape Town
Cape Town, South Africa

Alabama—State Club
Miss Agnes Harris
Auburn, Ala.

Arkansas—State Club
Mr. H. G. Hotz
University of Arkansas
Fayetteville, Ark.

California—Southern Club
Miss Lela W. Aultman
6811 Leland Way
Hollywood, Calif.

CHINA—EAST CHINA CLUB
Mrs. Nita M. Stallings
Soochow, Ku, China

CONNECTICUT—NEW HAVEN CLUB
Miss Frances Terrill
100 Whalley Avenue
New Haven, Conn.

CONNECTICUT—STATE CLUB
Dr. Raymond Mosher
State Normal School
New Haven, Conn.

GEORGIA—ATLANTA CLUB
Miss Isabel Dew
Head, Mathematics Department
Fulton High School
Atlanta, Ga.

GEORGIA—STATE CLUB
Miss Leila Bunce
Director, Home Economics
Fulton High School
Atlanta, Ga.

INDIANA—SOUTH BEND CLUB
Miss Mamie E. Kerner
115 North William Street
South Bend, Ind.

INDIANA—STATE CLUB
Miss Margaret Gillum
State College for Teachers
Terre Haute, Ind.

KANSAS—WICHITA CLUB
Miss Christina Rosendale
Wichita High School
Wichita, Kan.

LOUISIANA—STATE CLUB
Prof. Homer L. Garrett
Louisiana State University
Baton Rouge, La.

MAINE—STATE CLUB
Mr. Frank D. Rowe
Supt. of Schools
Warren, Me.

MARYLAND—STATE CLUB
Miss Lucetta M. Sisk
Glyndon, Md.

MICHIGAN—ANN ARBOR CLUB
Secretary
Miss Ethyl M. Neelands
Couzens Hall
Ann Arbor, Mich.
Treasurer
Miss Edith Bader
548 Thompson Street
Ann Arbor, Mich.

MICHIGAN—BATTLE CREEK CLUB
Mrs. D. R. Dudley
Asst. Superintendent of Schools
Battle Creek, Mich.

MICHIGAN—DETROIT CLUB
Recording Secretary
Miss Zaide L. Voorheis
Northern High School
Detroit, Mich.
Treasurer
Miss Jessie Wedin
Detroit, Mich.

MICHIGAN—GRAND RAPIDS CLUB
Mrs. Mabel Hutchings Bellows
Kensington School
Kensington and Curve Sts.
Grand Rapids, Mich.

MICHIGAN—NORTHERN MICHIGAN CLUB
Mr. Sidney Herring
401 Front Street
Marquette, Mich.

MINNESOTA—STATE CLUB
Miss Ethel Allen
1112 S.E. 8th Street
Minneapolis, Minn.

MISSISSIPPI—STATE CLUB
Mr. Joseph E. Gibson
McComb, Miss.

MISSOURI—KANSAS CITY CLUB
Miss Madeleine Farley
805 East 30th St.
Kansas City, Mo.

MISSOURI—ST. LOUIS CLUB
Mr. H P. Stellwagen
Board of Education
St. Louis, Mo.

MISSOURI—STATE CLUB
Miss Clara Evans
E. C. White School
Kansas City, Mo.

NEW YORK—BUFFALO CLUB
Miss Agnes McCarthy
Technical High School
Buffalo, N. Y.

NORTH CAROLINA—STATE CLUB
Mr. L. R. Johnson
111 Steele Street
High Point, N. C.

OHIO—AKRON CLUB
Miss Clara Barker
614 West Market Street
Akron, O.

OHIO—ATHENS CLUB
Mrs. E. B. Smith
University of Ohio
Athens, O.

OHIO—CINCINNATI CLUB
Mr. E. D. Roberts
Asst. Superintendent of Schools
Cincinnati, O.

OHIO—CLEVELAND CLUB
Secretary
Miss Liva Biszantz
1131 Clifton Blvd.
Cleveland, O.
Treasurer
Mr. Robert H. Owens
Collinwood High School
Cleveland, O.

OHIO—KENT CLUB
Miss Isabelle Hazen
Franklin Apartments
Kent, O.

OHIO—TOLEDO CLUB
Miss Grace Gordon
Riverside School
Toledo, O.

OKLAHOMA—STATE CLUB
Miss Lucy Helen Meacham
Director of Grades
Oklahoma City, Okla.

PENNSYLVANIA—HARRISBURG CLUB
Miss Anna P. Harris
1009 N. 16th Street
Harrisburg, Pa.

PENNSYLVANIA—PHILADELPHIA CLUB
Miss Florence Turner
Drexel Institute
Philadelphia, Pa.

PHILIPPINE ISLANDS
Mr. Gabino Tabuñar
Bureau of Education
Division of Bataugas, P. I.

TEXAS—STATE CLUB
Miss Evalina Harrington
Primary Supervisor, Public Schools
School Administration Building
El Paso, Texas

VERMONT—STATE CLUB
Miss Mary B. Sullivan
Normal School
Castleton, Vt.

VIRGINIA—STATE CLUB
Mr. C. B. Givens
4010 West Street
Richmond, Va.

WEST VIRGINIA—STATE CLUB
Miss Wilma C. Spears
Dept. of Education
Marshall College
Huntington, W. Va.

WISCONSIN—STATE CLUB
Miss Flora Menzel
Milwaukee Teachers Association
c/o Board of Education
Milwaukee, Wis.

PRESIDENTS OF CLASSES

CLASS OF 1916
Miss Mildred Memory
1 Kermit Road
Maplewood, N. J.

CLASS OF 1917
Mrs. Hazen Hoyt
3558 65th Street
Woodside, L. I.

CLASS OF 1918
Mrs. Louise Holbrook Baldwin
1669 Columbia Road
Washington, D. C.

CLASS OF 1919
Mrs. Joseph M. Couse
408 Asbury Park Avenue
Asbury Park, N. J.

CLASS OF 1920
Miss Ruth Taft
294 Macon Street
Brooklyn, N. Y.

CLASS OF 1921
Miss Margaret Briggs
1505 Jefferson Avenue
Scranton, Pa.

CLASS OF 1922
Miss Eva Wagner
Lincoln School
425 West 123rd Street
New York City

CLASS OF 1923
Miss Grace Ely
6 Kendall Green
Washington, D. C.

CLASS OF 1924
Miss Sallie Serson
34th and Chestnut Streets
Philadelphia, Pa.

CLASS OF 1925
Miss Helen Warren
The Garrison Forest School
Green Spring Valley
Garrison, Md.

CLASS OF 1926
Miss Yvonne Fassler
542 Second Avenue
Pelham, N. Y.

ALUMNI NOTES

Edith May Burdick (S.S. 1924) is still teaching in the Rayson School, a private school in New York City.

Gail H. Calmerton (S.S. 1919), who retired from the teaching profession in 1923, is listed in the 1928 edition of *Women of the West*. Miss Calmerton has recently had published by Beckley-Cardy Co., *Practical Projects, Plays and Games*.

L. S. Cozart (B.S. 1924) is principal of Washington High School, Raleigh, N. C., where he has been since 1926.

Hazel L. Fisher (A.M. 1928) is continuing for the fifth year her work as supervising teacher of Dorchester County, Md.

Orwin B. Griffin (Ph.D. 1928), head of the English department at the Wilby High School, Waterbury, Conn., during the past summer was visiting professor at the George Washington University, Washington, D. C., where he gave courses in history of education, teaching English in junior and senior high schools, and supervision. Mr. Griffin is the author of *The Evolution of the Connecticut State School System, with Special Reference to the Emergence of the High School.*

C. A. Kitch, Jr. (A.M. 1928) is su-

perintendent of schools, King City, Mo.

Anna Lowrey (A.M. 1922), who is teaching in the biology department of the Stockton High School, Stockton, Calif., writes that she spent a very profitable seven weeks during the past summer attending the School of Field Natural History, under Yosemite Park Service Direction, Department of the Interior. After six weeks of intensive study on trails in Yosemite Valley, members of the school hiked nine days in the high Sierras, reviewing the knowledge obtained on the "Floor of the Valley." The highest peak climbed was Mt. Dana, 13,050 feet in height.

Cora Amelia Ossire (A.M. 1915) is at present administrative principal of the Curtis-Hyde School, Washington, D.C.

S. Elizabeth Pope (A.M. 1928), who is dean of women at the State Normal School, Bridgewater, Mass., completed this past summer her requirements for the A.M. degree at Teachers College.

Wm. McKinley Robinson (A.M. 1919), director of the department of rural education, Western State Teachers College, Kalamazoo, Mich., is continuing in his work to develop the arrangements set up during the past year whereby seven typical rural one-teacher schools are affiliated with the rural department to serve as laboratory schools for third- and fourth-year students in the rural seminar classes. Mr. Robinson states that incidentally this work serves to keep the members of the department in close contact with actual rural conditions, provides convenient centers for members of the academic departments of the college to observe conditions under which their students will later teach, and, finally, is a part of the service extended by the college to its field area.

Paul J. Singleton (A.M. 1927) this year is working toward the degree of doctor of public health at the University of Michigan.

W. Henry Miller (A.M. 1923), whose present address is Fall River, Mass., was elected president of the Massachusetts Junior High Principals' Association at its annual meeting in April.

Olive Yeoman (A.M. 1927) is assistant principal and head of the English department in the High School, Hays, Kan., which is operated as a training school in connection with the Kansas State Teachers College of Hays. Miss Yeoman was also an instructor in the department of education at the State College of Hays during the summer session.

Sarah T. O'Meara (A.M. 1926) is serving her third year as supervisor of the teacher training department at Sandstone, Minn.

Earl H. Burgard (S.S. 1928) is head of the history department of the University School, a private institution at Pittsburgh, Pa.

Christine A. Thoene (A.M. 1925), who is the training teacher at the Illinois State Normal University, is also chairman of the Committee on Reading.

Julia E. Joslin (B.S. 1927) has accepted a position this year as supervisor of grades one to three in the public schools of Lynn, Mass.

Paul E. Bowen (A.M. 1927) writes that the June 1928 edition of Minnesota's Curriculum for Elementary Schools is now off the press. Mr. Bowen served on the committee on social science. I. T. Simley (A.M. 1927) served on the mathematics committee.

Raymond D. Chadwick (A.M. 1924) is still dean of the Duluth Junior College of Duluth, Minn. This college was organized in September, 1927.

J. T. Calhoun (A.M. 1925) is serving his fifteenth year as state rural school supervisor of Mississippi, Jackson, Miss.

Theodore R. Wright (S.S. 1927), of Birmingham, Ala., during the summer conducted a party of twenty-five teachers from that city to England to attend the Cambridge summer meeting. They also made a tour of France, Germany, Switzerland, Italy, Belgium, England, and Canada.

Rose K. Brandt (A.M. 1923) taught in the Central State Teachers College, Stevens Point, Wis., during the summer session, offering courses in rural education, supervision, and the newer techniques of elementary education. In addition, she assisted in conducting the two-week conference for county superintendents which has become a feature of the summer sessions in that institution. She has returned this year to Teachers College, Columbia University, for advanced work toward the doctor's degree.

Virginia Peeler (A.M. 1928) has accepted a position on the staff of the Vocational Guidance Bureau at New Orleans. Miss Peeler is spending most of her time investigating the occupations of New Orleans and preparing occupational monographs.

Grace C. Harrison (A.M. 1928) has accepted the position of vocational secretary in the bureau of personnel at Smith College, Northampton, Mass.

Edna V. Hughes (A.M. 1928) has been appointed director of Prospect Hill private school, Trenton, N. J.

Myrtle Carnes (B.S. 1925) is teaching her second year as kindergarten-primary adviser in the city demonstration school, Stockton, Calif. Last summer she taught the first-grade demonstration class in the Anne L. Page Memorial for Child Study, Wellesley College, Wellesley, Mass.

Madeleine C. Grimme (B.S. 1926) is in charge of the home economics department, Newton High School, Newton, N. J.

Esther Maule (B.S. 1924) is still teaching home economics in the Cleveland Junior High School, Cleveland, Ohio.

Alfred D. Simpson (Ph.D. 1927) is assistant commissioner of education for finance, Albany, N. Y.

Avis Smith (A.M. 1925) is assistant supervisor of kindergartens, public schools, Milwaukee, Wis.

Anita D. Laton (S.S. 1927), head of the science department, University of California, Berkeley, Calif., returned to Teachers College, Columbia University last summer and completed her requirements for the degree of doctor of philosophy.

Sadie Goggans (M.A. 1928) has returned to Teachers College, Columbia University, for advanced work toward the doctor's degree.

Victoria Lyles (S.S. 1928) has left rural work and gone into city supervision at Pottsville, Pa.

Elizabeth T. Perry (S.S. 1928) is instructor in education at Spelman College, Atlanta, Ga.

Jane Ellen McAllister (Ph.D. 1928) is professor of education, Fisk University, Nashville, Tenn.

Charlotte Hudnut (A.M. 1922) is teaching at the Week-Day School of Religious Education, Poughkeepsie, N. Y.

Louisa L. Knabb (S.S. 1922) is teaching mathematics in Northeast Junior High School, Reading, Pa.

Roger M. Thompson (S.S. 1925), director of research and surveys, State Board of Education, Hartford, Conn., is head of the church school of the Central Baptist Church, Hartford, Conn.

Frances Giddings (A.M. 1925) is associate in education and supervisor of kindergarten and elementary grades, University of California, Los Angeles.

Adelaide A. Mayo (A.M. 1926) is assistant professor of nursing education, University of Virginia, University, Va.

Jane S. Dayton (S.S. 1926), who has been public health nurse in Carbon County, Pa., has been appointed to a similar position in District No. 1 of Schoharie County, Uddleburg, N. Y.

Charles E. Hendry (A.M. 1928) has been awarded a fellowship for one year's participation in the study that Dr. Thrasher of New York University is making of boys' clubs. Mr. Hendry has also been appointed supervisor of field work for 1928-29 in connection with this study.

Helen A. Murphy (S.S. 1916) broadcast in October a story over station WPAP.

DEPARTMENT NEWS

The various departments of the College report interesting news items concerning their alumni.

DEANS OF WOMEN

Among the recent appointments made in the field of dean of women are the following:

Hazel Clark (A.M. 1926), for the past two years dean of women at Teachers College, Frostburg, Md., has accepted a similar position at Bates College, Lewiston, Me. Miss Katharine Druse (A.M. 1928) will fill the vacancy in Frostburg.

Grace Handsbury (A.M. 1924) has gone from the position of vice-principal of the Emma Willard School at Troy, N. Y., to that of dean of Russell Sage College.

Alice Ramsey (A.M. 1928) has been made director of the personnel bureau at Connecticut College for Women at New London, Conn.

Eunice Nelson (A.M. 1926) is dean of women at South Western Normal School, California, Pa.

Mrs. Ada Holmes, Mrs. Geraldine Greene, and Miss Grace MacArthur, all of whom received the A.M. degree in 1928, have accepted appointments as deans of women in Rollins College, West State Teachers College, Canyon, Tex., and Southern College, Lakeland, Fla., respectively.

Josephine Long (A.M. 1928) has been appointed assistant to the dean of women and critic teacher at State Teachers College, Marquette, Mich.

Ethel Dawbarn (S.S. 1928) is head of residence at Martha Cook Hall, University of Michigan, Ann Arbor, Mich.; Mrs. Margaret Ryan (A.M. 1928) and Mrs. Muriel Smith (B.S. 1928) hold similar responsibilities at North Carolina College for Women, Greensboro, N. C.; Miss Florence Magowan (A.M. 1928) at Stephens College, Columbia, Mo.; Miss Betty Thomas (S.S. 1928) and Miss Dorothy Mathews (S.S. 1921) at New Jersey College for Women at New Brunswick, N. J.; and Miss Louise Field (A.M. 1928) at Lindley Hall, Ohio University, Athens, Ohio.

Helen Bowman (A.M. 1924) has been made administrative assistant at Sarah Lawrence College, Bronxville, N. Y.

Florence Boehmer (S.S. 1928) and Dora Carlson (S.S. 1928) have accepted positions as deans of women at Wittenberg College, Springfield, Ohio, and Augustana College, Rock Island, Ill., respectively.

Cora Orr (A.M. 1925), who for three years has been assistant dean of women

at Muskingum College, New Concord, Ohio, has been appointed to the full responsibility of that position.

Mary Hallock (A.M. 1927) is dean of women at the Cincinnati Conservatory of Music, Cincinnati, Ohio.

Mae Foster (A.M. 1927) is the new dean at Ouachita College, Arkadelphia, Ark.

Esther Dayman (A.M. 1928), formerly field secretary for the Girl Reserves of the Y. W. C. A., has been appointed dean of girls in the Long Beach High School at Long Beach, Calif.

Mary Henderson (A.M. 1928) and Mrs. Edna Kraft (A.M. 1928) have been appointed as deans of girls, South Orange High School, South Orange, N. J., and Warren Harding Junior High School, Des Moines, Ia., respectively.

Della Campbell (S.S. 1928) is dean of girls in the March Junior High School, Denver, Colo.

ELEMENTARY EDUCATION

The following former students in elementary education, who have recently completed or are nearing the completion of the requirements for the degree of doctor of philosophy, are this year filling the positions indicated:

Dr. Laura Zirbes—Associate professor of education, Ohio State University, Columbus, O.

Mr. Robert K. Speer—Assistant professor of education, New York University, New York City.

Dr. Thomas J. Mahan—Associate professor of education, Colorado State Teachers College, Greeley, Colo.

Miss Helen Field—Professor of elementary education, University of Alabama, Tuscaloosa, Ala.

Mr. Willard Chase—Professor of education, Boston University, Boston, Mass.

Miss Blanche Weekes—Professor of elementary education, Alabama College, Montevallo, Ala.

Professor Wendell W. Wright (A.M. 1925) of Indiana University, formerly a student in elementary education, is coauthor with Dean Smith of the School of Education of Indiana University of a new book entitled, *Tests and Measurements,* published by Silver, Burdett and Company.

HOUSEHOLD ARTS

Miss Cora Binzel (M.A., 1926) has returned to her work in the department of education in Cornell University, after having been engaged in educational work at McCreery and Company.

Miss Helen Meston (B.S., 1920), a member of the staff of State Teachers College, Stevens Point, Wis., is spending her sabbatical year studying at Teachers College.

INDUSTRIAL ARTS

Miss Clarice Evans is teaching Industrial Arts at the experimental school at Dartington Hall near Totnes, England. This school, together with one in experimental agriculture, is maintained by Mr. and Mrs. Leonard K. Elmhirst.

NORMAL SCHOOL EDUCATION

Dr. Alonzo F. Myers, for some years Director of Teacher Training in Ohio University, has gone to Hartford as Director of Teacher Training for the State of Connecticut.

Dr. Winifred E. Bain has entered upon her new duties as Director of Training in the State Teachers College, East Radford, Va. Miss Bain completed the requirements for her Doctor's degree during the past summer. Her dissertation *An Analytical Study of Teaching in Nursery School, Kinder-*

garten, and First Grade, is being published by the Bureau of Publications, Teachers College.

NURSING EDUCATION

Miss Loraine Dennhardt—Assistant director, Bureau of Nursing, Department of Health, Madison, Wis.

Miss Margaret Welsh—Educational director, University of Cincinnati General Hospital, Cincinnati, Ohio.

Miss Margaret Carrington—Associate professor of nursing education, Western Reserve, Cleveland, Ohio.

Miss Elizabeth Pillsbury—Superintendent of nurses, Jewish Hospital, Brooklyn, N. Y.

Miss Nina Gage (M. A. 1925), has been appointed as executive secretary of the National League of Nursing Education with headquarters at 370 Seventh Avenue, New York City.

Miss Inez Cadel—Assistant director of the Instructor Visiting Nurse Society, Washington, D. C.

Miss Jane Nicholson—Tuberculosis supervisor, New York City Board of Health.

Mrs. Violet Hodgson — Assistant director of the National Organization for Public Health Nursing, 370 Seventh Avenue, New York City.

Miss Beatrice Sibley—Community nurse, Metropolitan Life Insurance Company, Richeville, Pa.

Miss Margaret Leavitt and Miss Emma Wilson — Ventilation research workers for the City Department of Health, New York City.

Miss Myra Cloudman—State field worker representative, American Red Cross in Texas.

Miss Margaret Neher—Supervisor of Englewood Hospital Public Health Association, Englewood, N. J.

Miss Beatrice Heaton—Pre-natal and infant welfare nurse for the Junior League of Kingston, N. Y.

Miss Hilda George—Superintendent of the Crippled Children's Health, Fayetteville, N. Y.

Miss Hattie Hemschemeyer—Assistant educational director at East Harlem Nursing and Health Service, New York City.

Miss Verda Fern Hickcox is taking a midwifery course in the General Lying-in Hospital in London, England, on the completion of which she is going to Siam.

Miss Adelaide Mayo—Assistant professor of nursing education, University of Virginia, Charlottesville, Va.

Miss Clara Quereau—Inspector of Schools of Nursing, State Department of Education, Albany, N. Y.

Miss Marion Douglas — Executive secretary of the Committee on Maternal Health, Child Welfare Federation, New York City.

Mrs. Josephine Prescott — General supervisor, New York City Health Department in the Bellevue-Yorkville District.

Miss Mary J. Dunn—Child welfare supervisor for the New York City Board of Health.

RURAL EDUCATION

Students in the rural major course of last year are filling new positions this fall as follows:

Dwight L. Bailey (S.S. 1928) is director of rural education, State Teachers College, Macomb, Ill.

Anna S. Chladek (A.M. 1928) is rural critic in the State Teachers College, Tempe, Ariz.

Ida B. Lacey (B.S. 1928) is rural primary supervisor, Hartford, Conn.

Olive L. Reynolds (S.S. 1928) is

county rural school supervisor in Frederic County, Md.

Kathleen Saville (S.S. 1927) is an instructor in education in State Teachers College, Hattiesburg, Miss.

SPEECH

Miss Roberta Barnett, president of the Speech Club during the Winter Semester, 1927-1928, is substituting for Miss Margaret Lakenan as instructor in speech in the State Teachers College, Fredericksburg, Va. Miss Lakenan is on leave of absence for the year and is studying at Teachers College.

Miss Ruth Pirtle (B. S. 1928), is chairman of the department of public speaking, Texas Technological College, Lubbock, Tex. Miss Pirtle reports that a majority of the two thousand students registered take some work in the department of Public Speaking.

The Department was delighted to receive a visit one day in October from Dorothy Smith (Mrs. Thomas Harvey), who was on the committee of the first Teachers College Festival, and played the part of True Aspiration. Mrs. Harvey is busy making home festivals for her two children, and in attending parent-teachers meetings in her home town, Larchmont. She says that the high tide of her student life was in festival making.

Greetings have been received also from Raymond Sovey who played the part of Student in that first Festival. Mr. Sovey has been helping recently in putting on *Little Accident* a play now running at the Morosco Theatre.

Miss Mary Ruth Bierman who took her B. S. in Speech in 1927 and her M. A. in English in 1928 is opening a studio for speech instruction and practice at 549 West 113th St., New York City. Miss Bierman, in spite of her handicap of blindness, took high rank as a student in speech, and is most heartily recommended as a critic, teacher, and reader.

VOCATIONAL GUIDANCE

Luke B. Headrick (M. A., 1928), is vocational counselor in the public schools, Summit, N. J.

TEACHERS COLLEGE CLUB OF INDIANA

The annual dinner and business meeting of the State Club of Indiana was held Friday evening, October 19, at the Spink-Arms Hotel in Indianapolis, and was attended by fifty alumni of the college.

Dr. Paul Monroe, who was on the program of the Indiana State Teachers Association that afternoon, was the guest of honor and spoke in a most interesting manner of recent happenings at Teachers College, and particularly of the work of the International Institute.

Those seated at the speakers' table were Mr. Roy Wisehart, state superintendent of public instruction, Mrs. Alice Corbin Sies, president of the Indianapolis Teachers College, Dr. Paul Monroe, Miss Flora Drake, president of the State Club; Dr. Otto F. Hamilton, vice-president and toastmaster of the evening; and Miss Mary McBeth, secretary.

Miss Flora Drake of the Indianapolis public schools, the efficient and gracious president of the club, was re-elected for the coming year. Other officers chosen were Mr. W. A. Denny, superintendent of the Anderson schools, vice-president; and Miss Margaret Gillum, Indiana State College for Teachers, Terre Haute, secretary-treasurer.

Miss McCarty of Indianapolis was chairman of the commmittee on arrangements for the dinner.

RECENT ALUMNI APPOINTMENTS

[*This list is continued from the November* RECORD.]

McFarland, Marjorie—Teacher of English, High School, South Orange, N. J.

McFarland, Muriel G.—Instructor in teacher training in home economics, State Normal School, Ellensburg, Wash.

McGinnis, Esther—Chief of extension division, Institute of Child Welfare, University of Minnesota, Minneapolis, Minn.

McGraw, Myrtle B.—Assistant professor of psychology, Florida State College for Women, Tallahassee, Fla.

Many, Fillette—Supervisor of fine arts department, Public Schools, Kalamazoo, Mich.

Marine, Lucile—Associate professor of education, Antioch College, Yellow Springs, O.

Marion, Jessie—Management specialist, Montana State Extension Service, Bozeman, Mont.

Marshall, Josephine—Head of home economics department, State Teachers College, Pittsburg, Kans.

Mead, Alice—Assistant supervisor of art, Elementary School and Junior High School, Montclair, N. J.

Meader, James Laurence—President of Russell Sage College, Troy, N. Y.

Melvin, A. Gordon—Instructor in the history and principles of education, College of the City of New York, New York City.

Merritt, Mary E. A.—Instructor in the kindergarten and primary theory, State Teachers College, Bloomsburg, Pa.

Miller, Anna H.—Teacher of household arts, High School, Elizabeth, N. J.

Miller, Elizabeth C.—Critic teacher of first grade, Michigan State Teachers College, Ypsilanti, Mich.

Millikan, Chloe E.—Professor of primary education, State Teachers College, Maryville, Mo.

Mitchell, Margaret O.—Supervisor of lunch rooms, Public Schools, Houston, Tex.

Montague, Josephine—Critic teacher of mathematics, Central State Teachers College, Mount Pleasant, Mich.

Moore, Clark D.—Principal of elementary school, Huntington, L. I.

Morgan, William H.—Secretary for men's work, Broadway Tabernacle Church, New York City.

Mullin, Ann L.—Teacher of open-air school, Horace Mann School, New York City.

Murdock, Dorothy—Teacher in art department, State Teachers College, Indiana, Pa.

Neulen, Lester—Superintendent of schools, Teaneck, N. J.

Newell, Annie C.—Critic teacher of first grade, Geneseo Normal School, Geneseo, N. Y.

Nichols, Helene—Instructor in science, High School, Manhasset, L. I.

Ogilvie, Albert—Instructor in zoölogy, Lawrence College, Appleton, Wis.

O'Leary, Mary B.—Teacher of sixth grade, The Calhoun School, New York City.

Orleans, Jacob S.—Editorial staff of the World Book Company, Yonkers, N. Y.

[*To be continued in the January* RECORD]